# MADRIX Help

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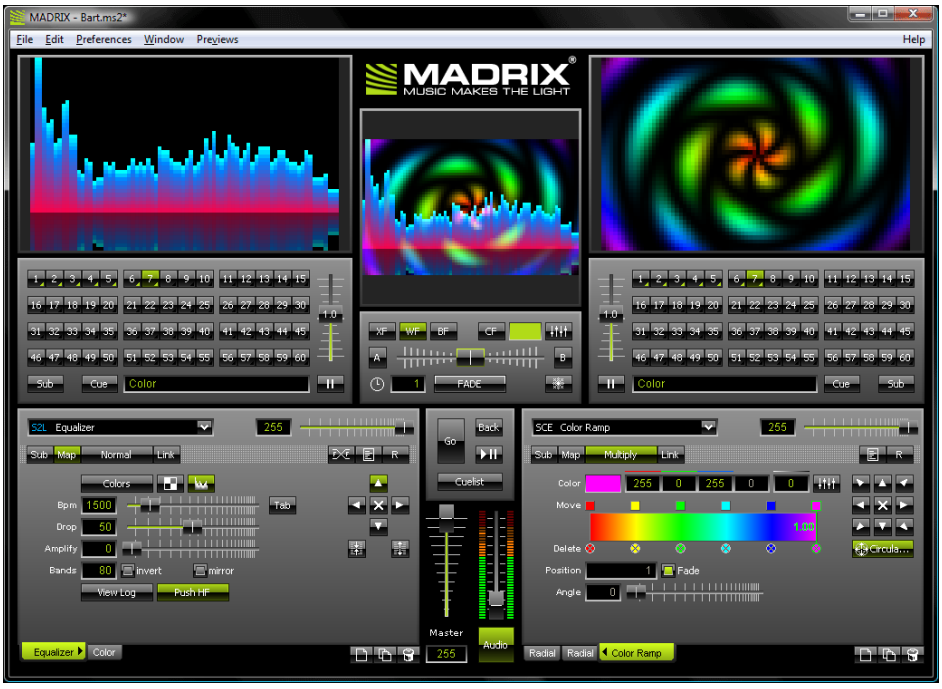

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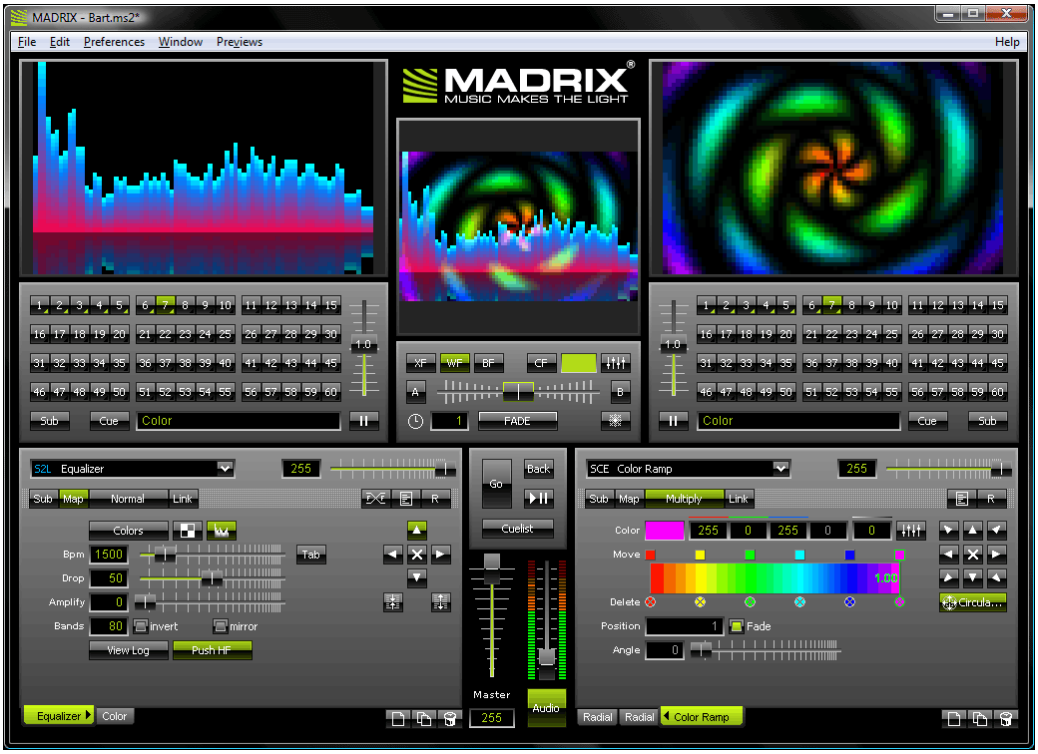
# Part

# 1 before starting




**Welcome to MADRIX** - the professional LED lighting control solution for architecture and entertainment environments including club, nightclub, stage, art installation, exhibition stand, interior and building illumination.

**This help is designed both as a course in using MADRIX and as an ongoing reference while you are working with the program.**

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## 1.1 System requirements

**Minimum:**

at least a 2GHz Processor, 512 MB RAM, 30MB free Fixed-disk Storage, screen resolution 1024 x 768, color representation 24Bit, Sound card, at least DirectX 9.0c. One free USB-Port for the USB-Dongle.

**Recommended for big installations:**

Intel™ or AMD™ Dual-/ Quad-Core Processor, 2GB RAM, 100MB free Fixed-disk Storage, screen resolution 1024 x 768, color representation 32Bit, Sound card, at least DirectX 9.0c. One free USB-Port for the USB-Dongle.

**Operating systems:**

Microsoft Windows 2000™, Windows XP™, Windows XP Embedded™, Windows Vista™

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## 1.2 What is DMX?

DMX512, often shortened to DMX (Digital MultipleX), is a communication protocol used mainly to control stage lighting. It is a form of the RS-485 architecture. Developed by the Engineering Commission of USITT, the standard started in 1986, with subsequent revisions in 1990 leading to USITT DMX512/1990. ESTA took control of the standard in 1998 and began a revision process. The new standard, known officially as "Entertainment Technology — USITT DMX512–A — Asynchronous Serial Digital Data Transmission Standard for Controlling Lighting Equipment and Accessories", was approved by ANSI in November, 2004.

DMX was originally intended as a replacement for 0-10V lighting control for use in linking controllers and dimmers of differing manufacturers, a protocol to be used as a last choice after trying other, more proprietary methods. However, it soon became the primary method for not only linking controllers and dimmers, but also linking more advanced fixtures and special effects devices such as fog machines and moving lights. As DMX512 is unidirectional and does not allow for a response it must not be used for any type of use involving life safety, such as controlling pyrotechnics. MIDI is sometimes used for this task.

A DMX512 controller is connected to fixtures or devices in a daisy-chain link. Each device has a DMX in and generally a DMX out connector - sometimes marked as DMX thru. The DMX out on the controller is linked via a DMX512 cable to the DMX in on the first fixture. A second cable then links the DMX out on the first fixture to the next device, and so on. In general, the final, empty, DMX out connector should have a DMX512 terminating plug attached into it, which is simply a 120O resistor joining pins 2 and 3 of the connector. Many modern devices negate this requirement as they are capable of auto-terminating the link.

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The connectors themselves should be five-pin XLR, however only three pins of the five are used. Many manufacturers use three-pin XLR connectors, in violation of the Standard. Additionally with the acceptance of the DMX512-A standard Cat5 cabling is also an acceptable wiring topology when used in a permanent installation.

Only cable designed for use with DMX512 should be used. Testing by ESTA has shown that CAT5 cable may be used without signal quality compromise. However, due to the common use of three-pin XLR connectors, microphone cables are often used for DMX512, and this is certainly not a recommended practice.

Data Plus (pin 3) and Data Minus (pin 2) are reversed compared to sound cables, and the signal travels in the opposite direction to the pins (female is out, male is in). The pin layout is :

## The pin layout

**#1 Signal Common**

**#2 Data Minus**

**#3 Data Plus**

**#4 (Not used) was Data2 Minus**

**#5 (Not used) was Data2 Plus**

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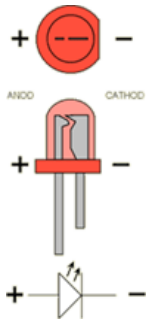
## 1.3 What are LED's?




A light emitting diode (LED for short) is an electronic semiconductor element. If a voltage is applied to the diode in flow pattern, it emits light.

Through an aimed choice of semiconductor materials and of doping, options of the recreated light an be varied. Most of all, the spectral span (compound to the span of visual light) and the efficiency can be influenced.

Through the increase in efficiency and the development of white LED's is the field light emitting diodes very wide. LED technique is used today to illuminate rooms, buildings and many more.

### Economical advantages of LED:

- High degree of effect with a low energy consumption
- Low heat development
- Almost unlimited life span of lamps
- Minimized cost and efforts compared to common light systems

### Design advantages of LED:

- Small construction shape
- Form also for common lights
- Dimming is possible without change of light temperature

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- Color of light is adjustable (if using different colored LED's)

## 1.4 MADRIX USB software protection key

You can download MADRIX at http://www.madrix.com for free. **The MADRIX USB software protection key is our software protection.** It is a copy and license management system, which is encoded, based on hardware.

With buying the software you receive a MADRIX USB software protection key. **The MADRIX USB software protection key activates your DMX, ArtNet and DVI output.**

### No MADRIX USB software protection key for MADRIX neo

With buying MADRIX neo you get this software protection inside this USB DMX512 interface.

**The MADRIX USB software protection key is not necessary for MADRIX neo.**

### Why software protection?

On average of one in every three software programs currently in use is an illegal copy. And these are only the professionally used products and not the copies for home use. A study of the Business Software Alliance (BSA) for 2004 has reported that the current piracy rate is 35%. The damage due to lost revenue from these pirated copies added up to 32.7 billion US $. In regions with an exceedingly high growth there is a correspondingly extremely high piracy rate of up to 92%.

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We protect against piracy via legal technical measures. The **MADRIX USB software protection key** offers the highest level of security available of any software protection **hardware (dongle)** through real, **hardware-based encryption. Thank you for your understanding!**

## 1.5 Do I need an audio input?

A sound card is a computer expansion card that can input and output sound under control of computer programs. Typical uses of sound cards include providing the audio component for multimedia applications such as music composition, editing video or audio, presentation/education, and entertainment (games). Many computers have an integrated sound card, while others require these expansion cards if audio capability is desired.

**MADRIX works with and without an audio signal.** The Static Color effects (SCE) 76 are working without an audio signal. MADRIX also offers Sound2Light (S2L) 108 and Music2Light (M2L) 126 effects. They only work with an audio signal.

As audio sources you can use e.g. Winamp®, Windows Media Player®, Apple iTunes, Apple Quicktime Player®, Real Player®, Ultramixer® etc. Audio input for sound cards, e.g. microphone or LineIn-input are supported.

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You can also play music from your cd-player, dvd-player, mp3 player, cassette recorders, DAT-Player, radio etc. Please use in this cases the Line In input of your sound card.

### Why a professional sound card?

**For best audio analysis use a professional sound card!** The Creative SoundBlaster X-FI cards are the recommended sound card for cost. Sound Blaster delivers award-winning X-Fi technology for faster and better sound quality. X-Fi 24-bit Crystalizer restores sparkle to low quality audio, upgrading MP3, DIVX and TV audio to 24-bit. **Soundblaster X-Fi is ideal for MADRIX.**

## 1.6 Audio Input Configuration

MADRIX offers you Sound2Light and Music2Light effects. The music is being analyzed after tone theoretical parameters. MADRIX analyze the height of tones, volume and also e.g. single tones, intervals, keys and tonalities. As audio sources you can use extern signals (LineIn, MicIn), as well as PC played audio signals.

### Set up your Windows audio mixer control

You find a small loudspeaker symbol at the Windows system tray. Double click the small loudspeaker symbol. A window will be displayed showing the controls for the volume.

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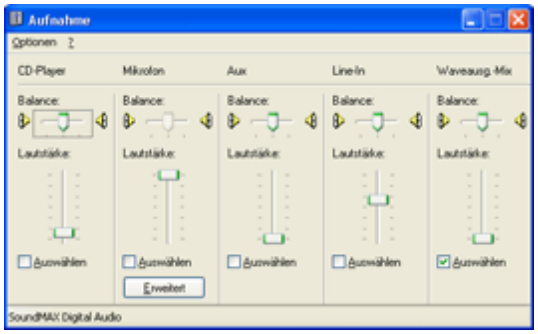
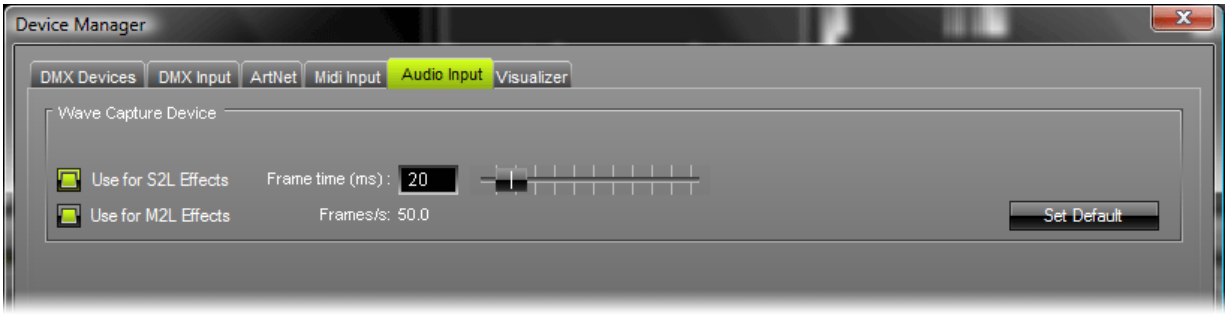



Inside the menu please choose OPTIONS -->ATTRIBUTES and click Recording. The Mixer of the Recording device is being displayed. You see a check box under every device.

Select now the device (names vary from producers and sound cards, "CD-Player", "Microphone", "Wave-Mix" etc.) you want to analyze and set up the volume of the device.

Please check also the audio configuration inside the **Device Manager** tab **Audio Input.**




## Setup your audio controls in Windows Vista

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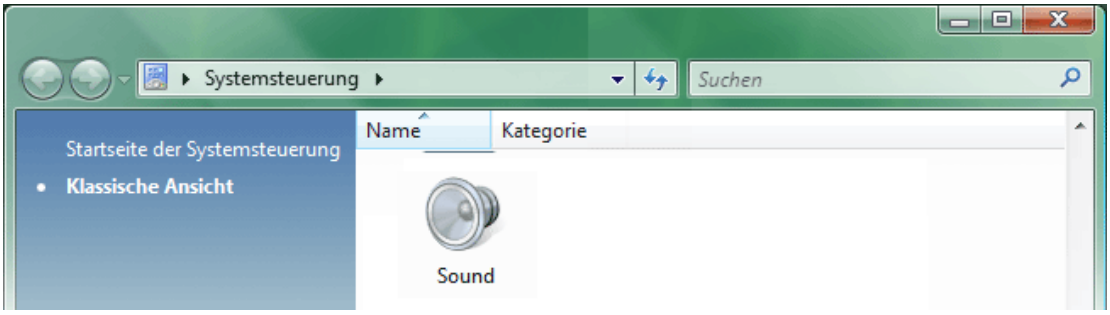
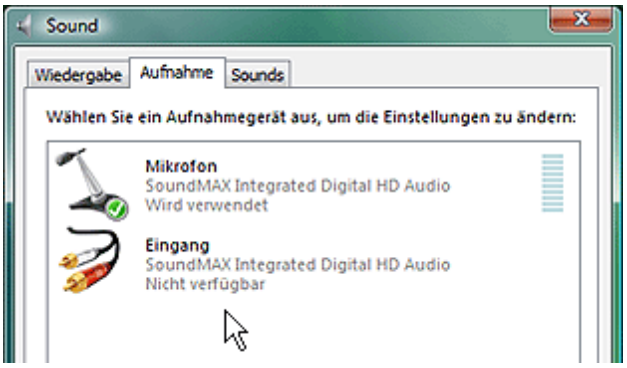
Windows Vista

If MADRIX should analyze your Windows Media Player or Winamp etc. music you have to set up first the right audio source inside the Windows control panel.

First you have to close all running applications. After that go to the windows control panel. Search for the entry called "Sound" and open it.




Now you see a new window with your physical existing audio devices. Next right click inside this window to open the context menu.

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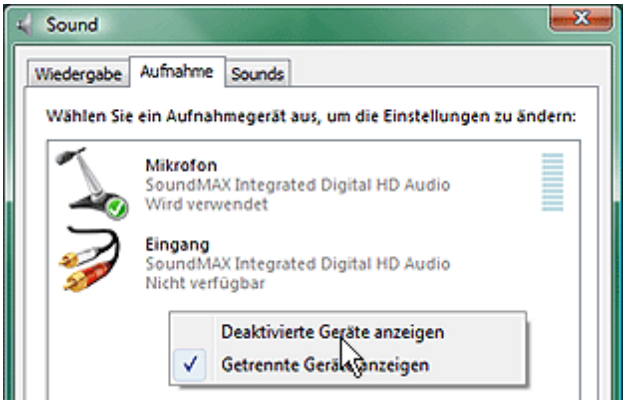
Inside the context menu select "Show Disabled Devices".




Now you see a entry called "Stereo Mix". Please activate this device. After that you have to activate this device as your default audio device.

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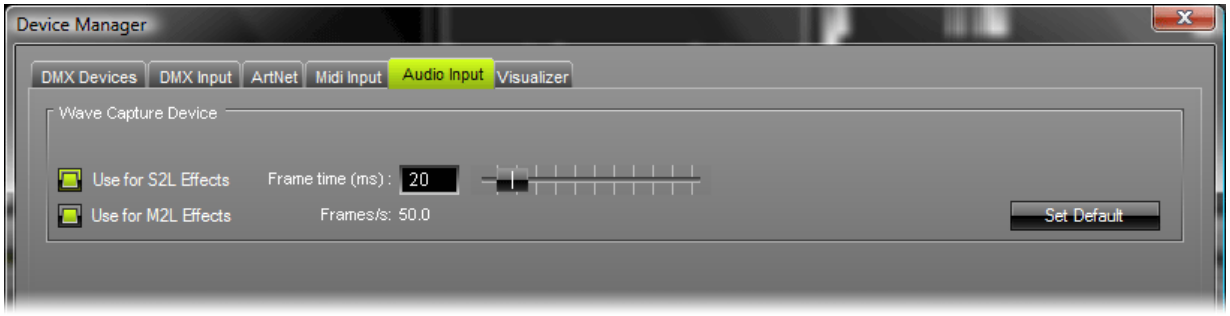
You have a activated "Stereo Mix" audio device as recording source. MADRIX can now analyze your music from Windows Media Player or Winamp etc..

Please check also the audio configuration inside the **Device Manager** tab **Audio Input.**

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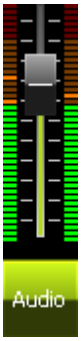
## 1.7 Starting the audio analysis




**If you want to use the Sound2Light 108 or Music2Light 126 effects, you have to activate the audio analysis.**

Please click on the "Audio" Button. A activated "Audio" button indicates you that the MADRIX audio analysis is running. If you want to use only static effects (e.g. SCE Color, SCE Color Ramp,...) you do not have to start the audio analysis.

Next please adjust the volume with the volume fader. You will have the best results if the maxium volume of the audio signal is in the green to orange area.

### Real-Time audio analysis for amazing effects

With a sound card and the unique Music2Light 126 real time effects, MADRIX will deliver a 100% synchron light show to the music. MADRIX analyzes the music in real time and plays live shows. Opposite to the lighting consoles and other software solutions, the MADRIX light show runs automatically and synchronous to the music. You can use the Real-Time Audio Analysis with any audio source - Audio-CD, Record Player, Tape, MP3, WMA, Microphone ... are supported.

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## 1.8 Supported sound cards

The selected audio signal is being scanned and analyzed with Microsoft DirectX®-Functions. If your soundcard not deliver fast the requested data you will have problems with the sound analysis.

**If you are having a problem with the audio analysis we suggest:**

- check if you have clicked at the "Audio" button, and the "Audio" button is activated
- check the recording settings inside the mixer control for your recording device
- check the installation of the drivers of your sound card as well as the installation of the Microsoft DirectX®-Version
- purchase one of the latest, high quality sound cards like the Creative Soundblaster X-FI technology

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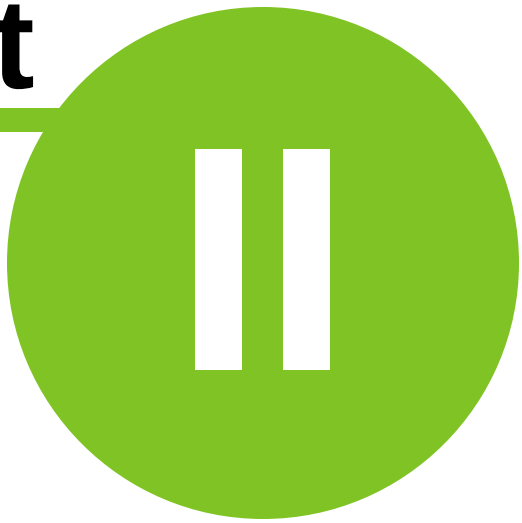
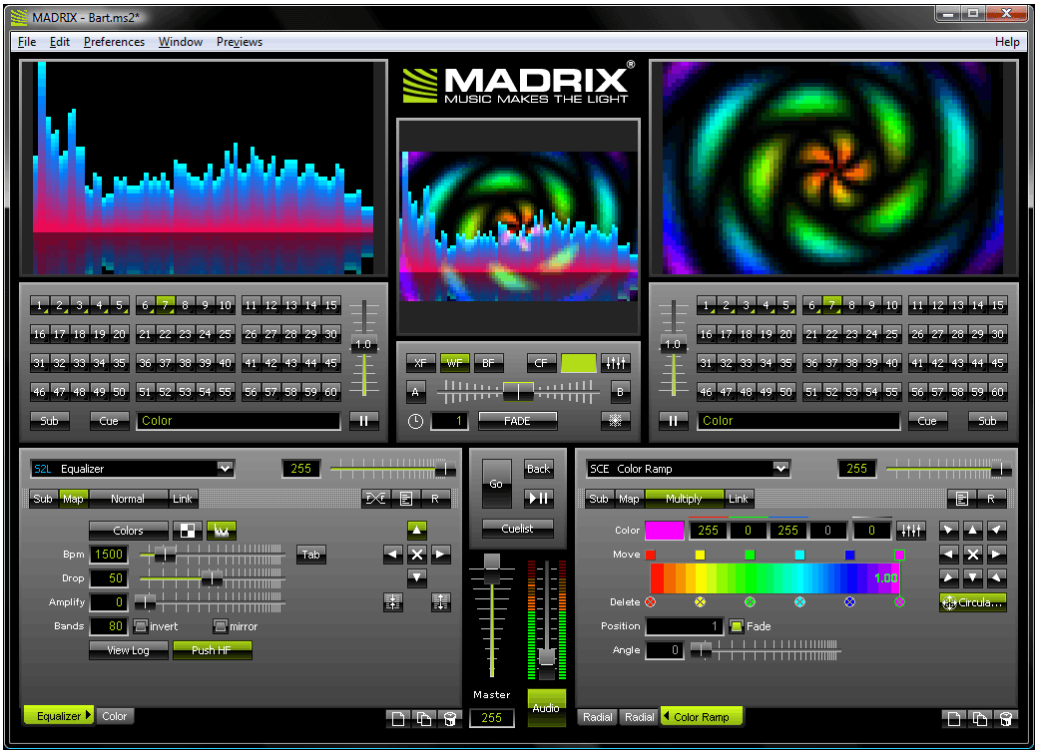
# Part



# 2 graphical user interface




A **graphical user interface** (or GUI, often pronounced "gooey"), is a particular case of user interface for interacting with a computer which employs graphical images and widgets in addition to text to represent the information and actions available to the user. Usually the actions are performed through direct manipulation of the graphical elements. GUI design is our important adjunct to application programming.

**The goal of MADRIX is to enhance the usability of the underlying logical design of lighting control.** The visible graphical interface includes a lot of graphical elements that interact with the program.

The graphical user interface of MADRIX contains **a menu in the upper part**. In the menu you can load and save your shows, set up your DMX devices etc. as well as “Help”.

The **lower part** is divided into different parts, the preview windows, the storage area, the effect area, the layer area and the fade area.

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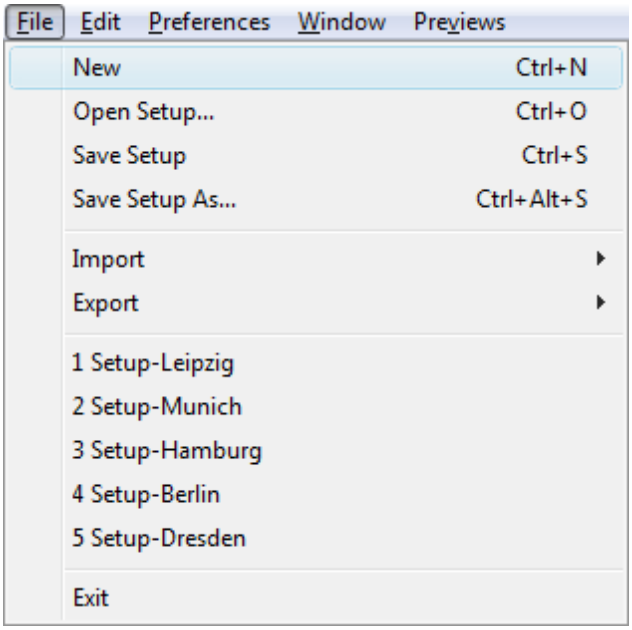
## 2.1 The Menu

You find the menu with **File, Edit, Preferences, Previews and Help** in the upper part of the software.

### File menu




If you click on the menu item **"New"** and you get a new, blank and clear setup with clean storages.

In the File menu you can "**Open"** (load) and **"Save"** setups. Using the menu entry **"Import"** to import (load) a complete **Storage** (all storage places on one side)**,** a **Storage Place,** the **Patch** and the **Device Settings.** Using the menu entry **"Export"** to export (save) a complete **Storage** (all storage places on one side)**,** a **Storage Place,** the **Patch** and the **Device Settings.**

Click on the menu item **"Exit"** to close the software.

### Edit menu

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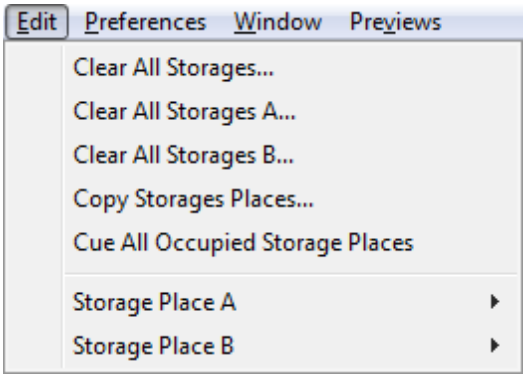


In the Edit menu you can **"Clear all storages"**, **"Clear all storages A"** and **"Clear all storages B"**. This actions will clear all settings on selected storages.

With **"Copy Storage Places"** you can copy one; more than one; or all storages from A to B or from B to A.

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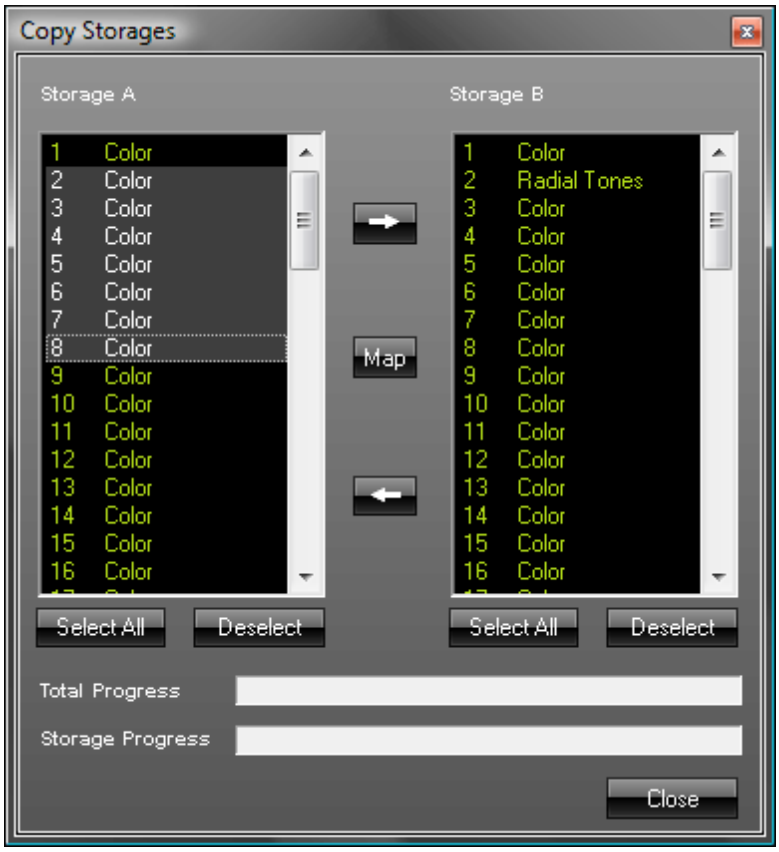


You can see the storage A in the left, and the storage B in the right part. Now you have to mark all the storages which you want to copy and then click on the arrow right to copy from A to B and on the arrow left to copy from B to A.

With an activated Map button you can copy selected storages from A to B and from B to A. Select first the storages you want to copy. At the other side select the storages where this storages should be saved. Especially copying images and videos you will have a long copying time. By clicking Select All you can mark all entries of the list, Deselect deactivates the selected entries.

The option **"Cue All Occupied Storage Places"** adds all storage places to the cue list where are not empty.

## Preferences menu

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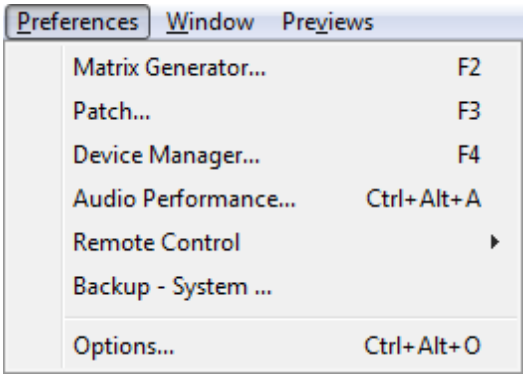


In the Preferences menu you have the settings of the **"Matrix Generator"** as well as the **"Patch"**, Device Manager and Audio settings, Remote Controls and the Startoptions.

The **"Matrix Generator"** is the easiest way to setup your light matrix. After you have created your Matrix with the help of the Matrix Generator you can **"Patch"** by clicking at the Patch.

Inside the **"Device Manager"** you can set up your DMX, Artnet, MIDI hardware, Audio settings and Visualizers like WYSIWYG from Cast Software.

Click on **"Audio Performance"** to open the dialog for setting up the audio performance and audio optimization.

You can **"Remote Control"** MADRIX by using DMX-IN and ArtNet, MIDI and remote HTTP MADRIX has an integrated webserver and can be remote controlled with an internet browser. You can activate this feature by clicking on the menu item Remote Control --> HTTP. MADRIX has also an integrated DMX-IN and MIDI feature and can be remote controlled with your lighting desk or DJ/VJ MIDI console. You can activate this feature by clicking on the menu item Remote Control --> DMX or MIDI.

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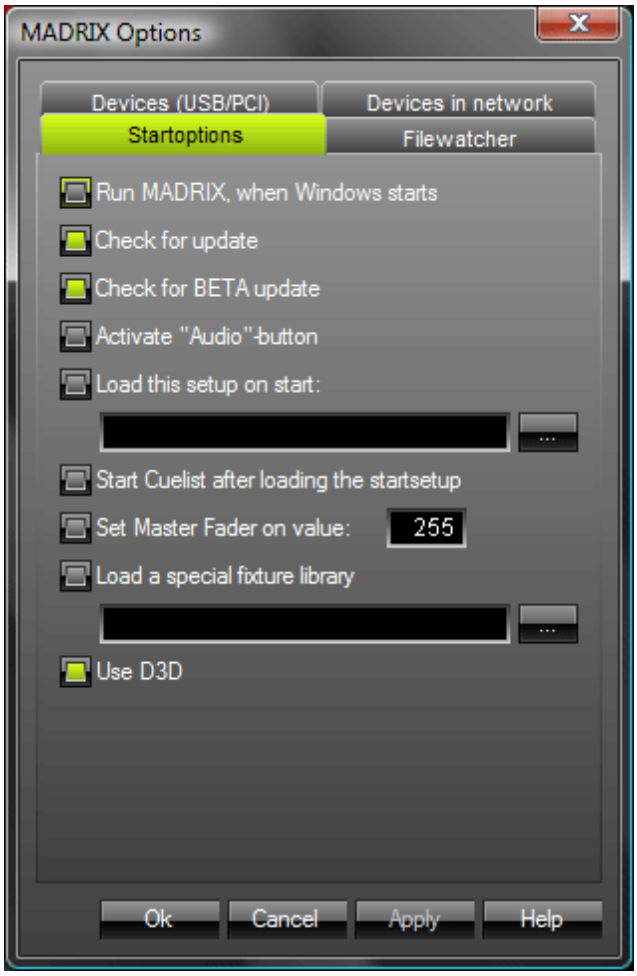


You reach the MADRIX Options by clicking inside the menu Preferences **"Options"**. With the **Startoptions** you can set up if MADRIX runs if Windows is starting up. Also you can activate the **Check for Update** function. If MADRIX is starting up it will check for new available software updates. If you activate **Check for BETA update** MADRIX will search also for new available BETA versions.

The **Audio button** can be **activated**. If MADRIX starts, the audio analysis is automatically running. That's important if you are using Sound2Light or Music2Light effects. You can activate the Remote HTTP function. If MADRIX starts the internal web server will be automatically running and you can use an internet browser for remote controlling MADRIX.

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Also you can **load** your created **setup** if MADRIX is starting up.Activate the switch Load this setup on start, next search and select your setup by clicking on the "..." button. If you have activated the switch "Load this setup on start" you can start the cuelist of this setup if MADRIX is starting up. Please click on Start cuelist after loading the startsetup.

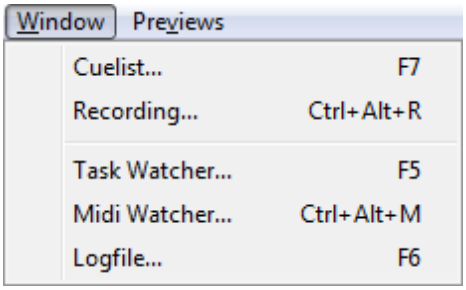
You can set the **master fader** to a value by activating the switch Set Masterfader on value and type in the value inside the input box. The DVI output window can be displayed at a certain position if MADRIX is starting up. Activate the switch Show Preview DVI on Pos. and type in your values for the X and Y coordinates.

If you have modified the original **fixture library** using the MADRIX fixture editor (With the help of the MADRIX fixture editor you can create your own fixtures. This tool is included in the MADRIX installation.), you can load your own fixture library at the MADRIX start up by activating Load a special fixture library.

If you activate **"Use D3D"** all previews will be rendered using Microsoft DirectX. If you have problems with the D3D previews you can deselect this option. MADRIX supports DirectX 9 and DirectX 10 graphic cards and drivers. Please check which DirectX drivers you have installed by typing "dxdiag" in the DOS console

**Enable the D3D output. This option is a great performance improvement for MADRIX.**

## Window menu




Inside the Windows menu you find the **"Cuelist"** window, the **"Recording"** window, the **"Task Watcher"**, **"MIDI Watcher"** Window and the **"Logfile"** window.

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To open the Cuelist please click at Cuelist. You can read more about the Cuelist in the Chapter Cuelist. 152

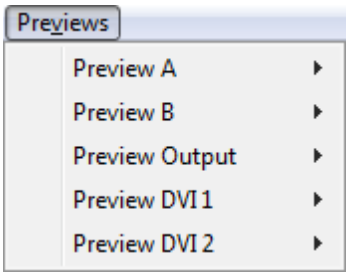
To record to a DMX standalone interface click at Recording. You can read more about the recording function in the Chapter Recording 285.

Inside the MIDI watcher you can check your MIDI connection if you are using MIDI sound analysis or a a DJ/VJ console to remote control MADRIX.

Inside the Logfile you find all warnings and system information.

> If you search for an error and you don't have an idea where the problem is check the Logfile first. **Also for any support request this Logfile is needed.**

## Preview menu




The output windows inside the software can be adjusted with the Previews menu.

Those settings are being explained more in detail in the chapter The preview window 30.

## Help menu

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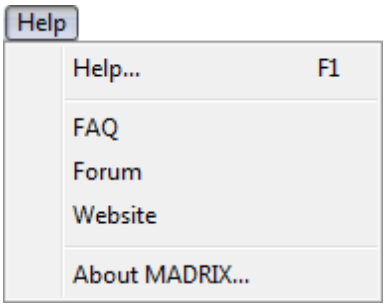
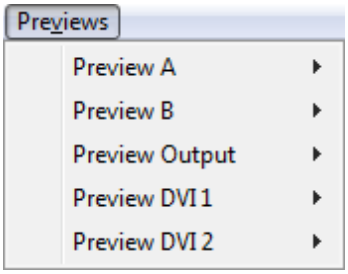



With the Help menu you can start the online Help and you can see information **"About MADRIX"**. In the About MADRIX you can check the information about your MADRIX license.

## 2.2 The Preview windows




"**Preview A**" and **"Preview B"** represents the two preview windows for the two effect pipelines in MADRIX. The middle **"Preview Output"** is a preview of the DMX-output. With the help of the two preview windows (Preview A and B) you can have a look at the effects before you output them.

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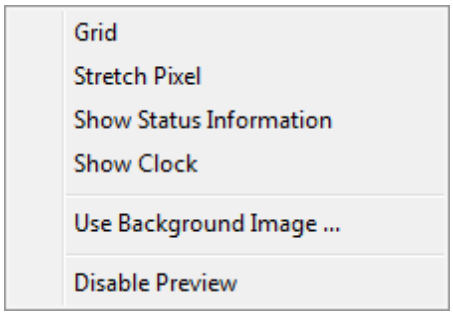


All preview windows have a context menu. For displaying click with the **right mouse** button inside the preview windows. Through the context menu you can turn on and off the **"Grid", "Stretch Pixel", "Show status information", "Show Clock"**, **"disable Preview"** or use a **"Background image"** for the previews.

If you activate **"Show Clock"** you see the time in the preview. In this example it's 15:18:39 German time or 03:18:39pm.

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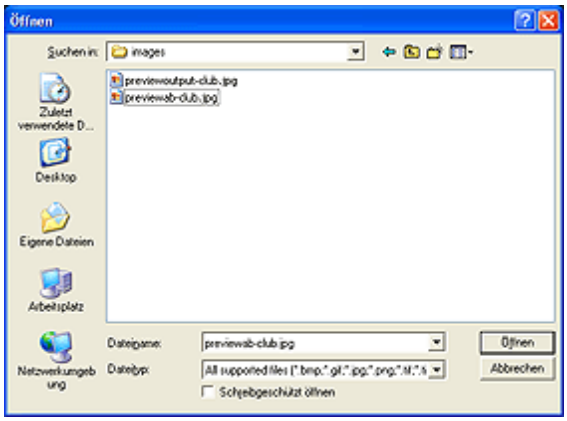


If you click at **"Use Background image"** a file open dialog will be open. Inside this dialog you can load bmp, gif, jpg, png, tif, tiff files as background images for your previews.

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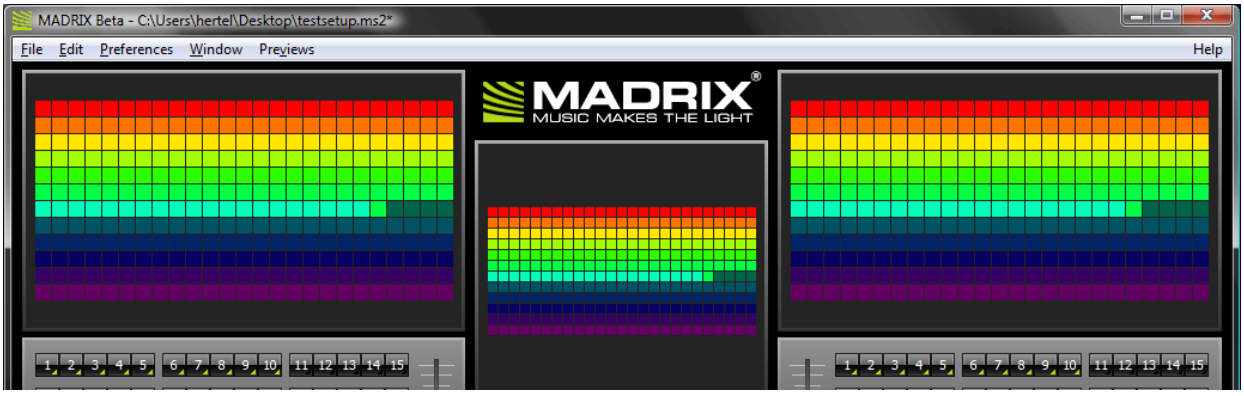
The suggested images resolution for the **Preview A and B** window in pixel

The suggested image resolution for the **Preview Output** (middle) window in pixel:

## The Mask Mode - Previews with darker areas - part 1

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If you see a darker area at the previews your Matrix size is larger (Setup has more DMX channels) than your MADRIX license / version. In this case you see a darker area because this MADRIX setup has more than 512 channels and the licence is valid up to 512 channels. In that case all fixtures beyond 512 channels will be displayed darker than the first 512 channels.

You can check your MADRIX licence by clicking inside the menu **Help --> About MADRIX.**

| In this example you will see only the first 512 channels at the DMX output. |
|---|

## The Mask Mode - Previews with darker areas - part 2

You see also a darker area at the previews if you have created e.g. a **Patch** with areas where are no fixtures. Areas without fixtures will be automatically display darker to indicate you, that this area is not in use. **In this example you see in the middle a darker area with no fixtures.**

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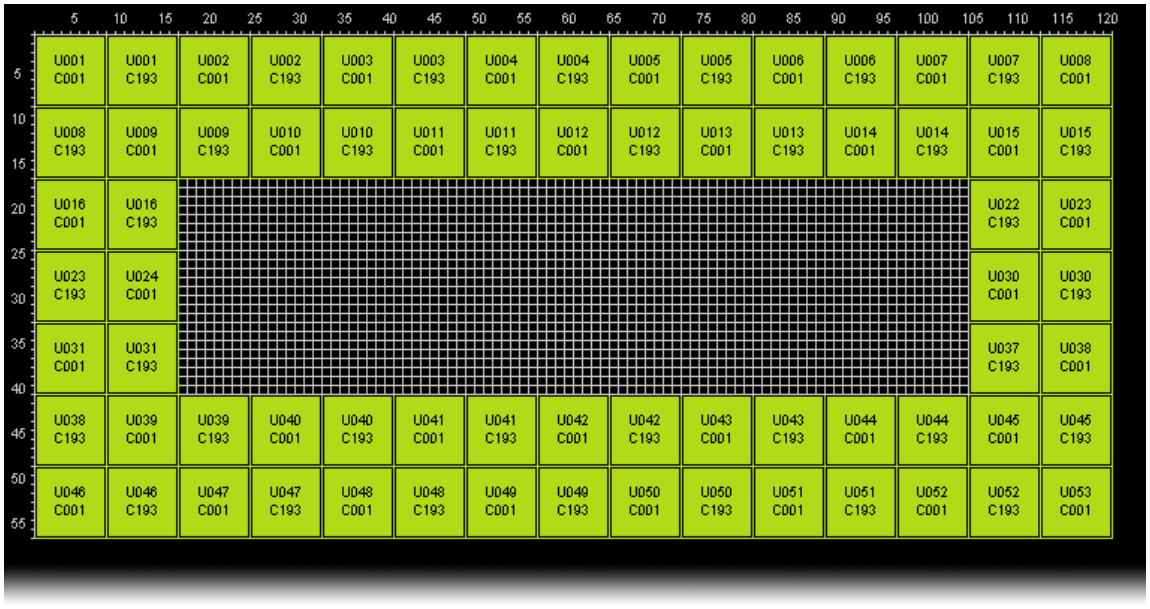


## The Preview DVI and the DVI Output Windows

With **MADRIX professional and versions above** you have a activated **DVI output.**

The Digital Visual Interface (DVI) interface uses a digital protocol in which the desired brightness of pixels is transmitted as binary data. When the display is driven at its native resolution, all it has to do is read each number and apply that brightness to the appropriate pixel.

With the DVI output you can control e.g. LED pixel walls with MADRIX. Read more about the DVI window function 174, DVI window borderless 175, DVI window with frame 177, and the DVI window fullscreen 178 mode.

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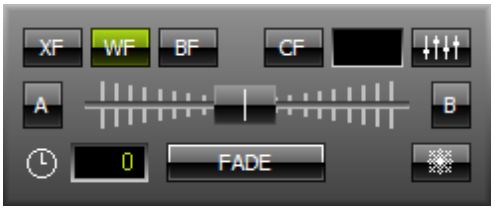
## 2.3 The Fade area




With the Fader you can change the effects from storage **A** to **B** (left to right) or B to A (right to left). The four buttons **XF** (Cross-fade), **WF** (White-fade), **BF** (Black-fade) and **CF** (Color-fade) decide the fade type. With the Fader box button you can choose the color only for the Color fade (CF).

The position of the fader decides which of the effects is on the preview output. MADRIX is sending the DMX data you will see on the preview output. Set the fader to the far left to show the effect in preview A. Set the fader on the far right, to show the effect from preview B.

By using the input field Time you determine the fade duration. Put in the time in seconds and tenth seconds like this: "2.5" for a fade duration of 2.5 seconds. You start the fade procedure with the FADE button. If the fader starts on the right side, the fader will move to the left side. If the fader starts on the left side, the fader will move to the right side.

By activating the **freeze** button you can hold / freeze the output screen.

**Hint:** If you double click (left mouse button) at the Fader slider the Fader will move in the middle between A and B exactly at 50%.

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## 2.4 The Storages

You can save **60 effects on Storage A** and **60 effects on Storage B**. Click a storage and set up an effect. The effect will be saved automatically at this storage. If you have saved / created an effect at a button you see a **green triangle** at the lower right corner of this button.

If you move now your mouse over the storage buttons you see a preview of the effect as a **thumbnail**.

To open the **context menu click right at a storage button**. With the **"Open"** function you can load, **"Save"** saves a storage. With the **"Copy", "Cut"** and **"Paste"** function you can copy, cut and paste storages. Example: Select a storage, press copy and select an other storage in which the effect should be copied. Press the paste button. The effect will be copied from the original storage to the target storage.

You can also cue a storage by clicking right and select **"Cue"**.

**"Clear"** removes all effects at this storage. You have a blank storage place.

### Speedmaster A and Speedmaster B

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At the right side of the storage area A and on the left side of the storage area B you see a **speedmaster** fader. With the help of the speedmaster you can speed up and slow down effects. The range of the speedmaster is from "-10" to "+10". The value "1.0" is the normal speed. The **"Pause"** button below the speedmaster fader pauses an effect. Click ones and hold to pause temporarily or click twice to pause permanent.

Furthermore, MADRIX offers you the possibility of a storage fade for both storage areas. The time for the fader you have setup determines how long and which kind of fade over is being executed on a storages change.

## Example:

Put inside the fade time the number 2 for two seconds and then click the button **"WF"** for a white fade. If you now change the storage a white fade (WF) is being executed with a duration of two seconds.

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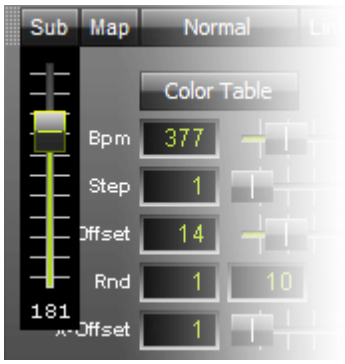
## 2.5 The Effects

Effect area A and effect area B represents the two effect areas of MADRIX. Through a drop down list you can select an effect. You find Static 76 (SCE), Sound2Light 108 (S2L) and Music2Light 126 (M2L) effects. You can give the selected effect an additional name.

### Submaster, Mapping, Mix modes and the Link mode

All effects have an area where you can adjust the Submaster, the mapping, the mix modes and a link mode for your selected effect.

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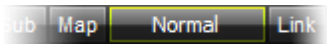
To adjust the **intensity** of an effect or layer please click and hold the Sub switch for the **Submaster**. Below the Sub switch you can adjust the intensity by moving your mouse top to down or down to top.

> With the help of the Submaster you only adjust the intensity of the running effect or layer. To adjust the intensity over all running effects you have to use the Masterfader.

If you want to **map, tile or rotate** an effect, please click the Map button. The mapping is described in the chapter The mapping 59.




If you want to use different **mix modes** please click at the mix mode button. (in this case you see Normal at this button.) The mix modes are described in the next chapter The Layers 41.

With the **Link button** you can link two layers. Linking layers is very useful if you have three or more layers. Please read the next chapter The Layers 41 for more information about linking layers.

## The reset and frame fade function

All effects have a **reset** button **(R)**. The reset button **resets** this effect **to the default settings for this effect.**

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Some effects have an additional **frame fade** button. If you **turn on** the frame fade function you can create a **very soft running effect** especially with **slow movements**.

## 2.6 The Layers

Layers are stacked on top of each other, and depending on the order, the final picture changes appearance. A Layer can have a certain opacity and a number of other properties. Layers gives a skilled MADRIX user a lot of flexibility.

**Layers are used in MADRIX to compose your own amazing effects.**

If you want to use layers you have to setup an effect first. This effect is now automatically a layer also if you have only one effect running. That means that each created effect is also a layer at the same time.

You see three buttons at the layer area. Click on the **first button** to **create a new layer**. By clicking on the **second button** you **duplicate** the active layer. A new layer will be created with the same setup like the selected layer. If you want to **remove/ delete** a layer click on the **third button**. The selected layer will be removed.

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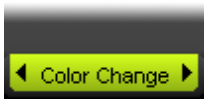


Now you can move a layer to the left and the right by simply clicking on the arrows at the active layer tabs.

A Layer can have an opacity, mix mode and other properties. They give skilled MADRIX users a lot of flexibility. The Layers can blend using one of several modes which result in different color combinations.

## Layer opacity

Use layers to overlap other layers. The opacity fader decides about the opacity of the top layer. You have a 100% coverage by pulling the layer to the fare right. Is the position of the fader in the middle you have an opacity of 50%.

**Hint:**
If you double click (left mouse button) at the Fader slider the Fader will move in the middle exactly at 50% opacity.

## Layer mixing modes

If you want to use the Layer mixing modes please click the button between the Map and the Link button. Click and hold the left mouse to select a mix mode. In this example you see the mix mode Multiply/Mask.

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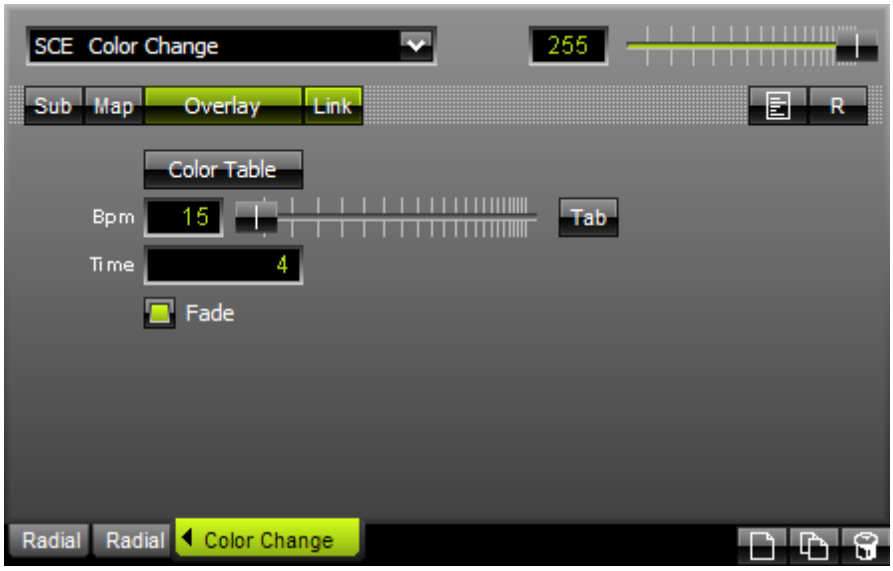
You can choose between **over 20 different layer mixing modes**. The mixing mode options in the layers let you change the mixing with the layers underneath. Keep in mind that a layer's opacity and mixing mode interact with the opacity and mode of the underneath layers.

**You can select between the following mixing modes:**
Normal, Darken, Multiply, Color Burn , Linear Burn, Lighten, Screen, Color Dodge, Linear Dodge, Overlay, Soft Light, Hard Light, Vivid Light, Linear Light, Pin Light, Hard Mix, Difference, Exclusion, AND, OR, XOR and Mask

## Linking layers

With the **Link button** you can link two layers. Linking layers is very useful only if you have three or more layers. If you activate the Link mode the actually selected layer is linked and rendered with the layer under it.




In this example you see three layers. The first layer is Plasma, second Radial and third Pulse/ Stoboscope. The Pulse/ Stroboscope layer is linked with the layer below Radial by activating the Link button at the Pulse/ Stroboscope layer.

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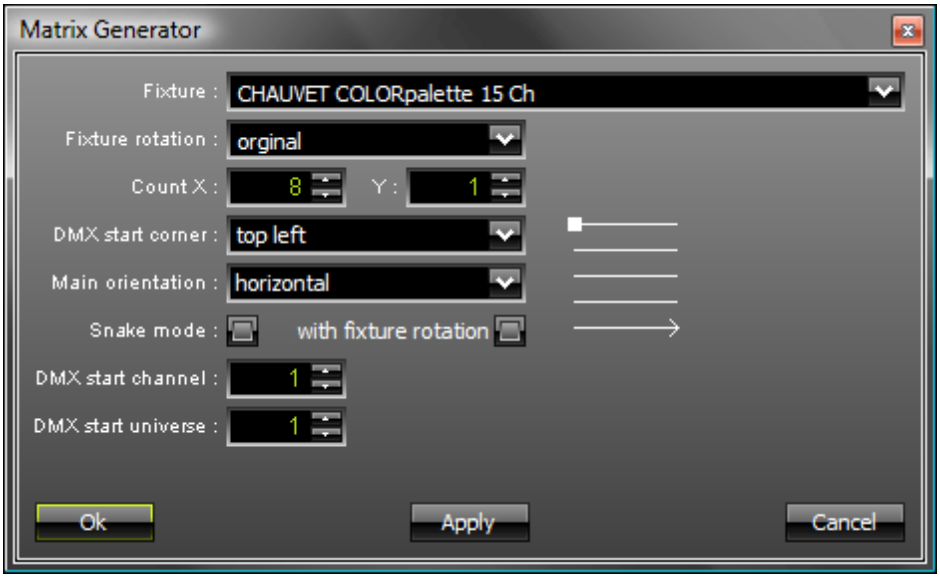
# Part

# 3 handling of the software

MADRIX is an easy to use and user friendly Windows® software for the creation of complex lighting scenes and show operations.

**In this chapter you will learn how to use MADRIX in a few steps.**

## 3.1 Matrix Generator




After the start of the software you have to define your light matrix in MADRIX. To do that, please click at the menu **Preferences --> Matrix Generator**.

A new window is being opened. Inside the first drop down list for "Fixture" you can select the lighting fixture.

MADRIX offers you the possibility to set a rotation in the field fixture rotation. With fixture rotation you rotate the hole defined light matrix. All fixtures will be rotated!

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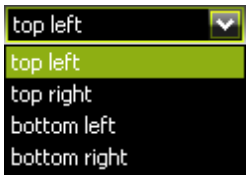
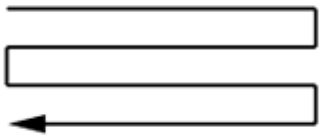
Now you have to define the number of lighting fixtures that exist in the horizontal in the input field X, and in the input field Y the number of lighting fixtures existing in the vertical.




In the drop down list start corner you have to define where the DMX addressing starts. In main orientation you select, how the addresses are ordered (horizontal or vertical).



Activate the snake mode if you have set the DMX addressing like seen on the picture. By activating the snake mode you can activate additional with fixture rotation.

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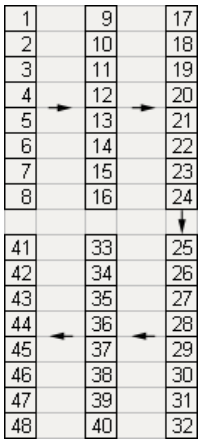


If you have activated the switch snake mode and with fixture rotation every fixture in your second line will be rotated by 180°.

On the right side you see a demonstration picture with dmx channels of an 3 x 2 installation with activated snake mode and activated with fixture rotation.

At the end you have to select which DMX start channel and the DMX Universe (start Universe).

Please check your installation for linear addressing of the lighting units in horizontal and vertical direction.

If you want to patch your addresses manually or insert other lighting fixtures please click inside the menu **Preferences --> Patch.**

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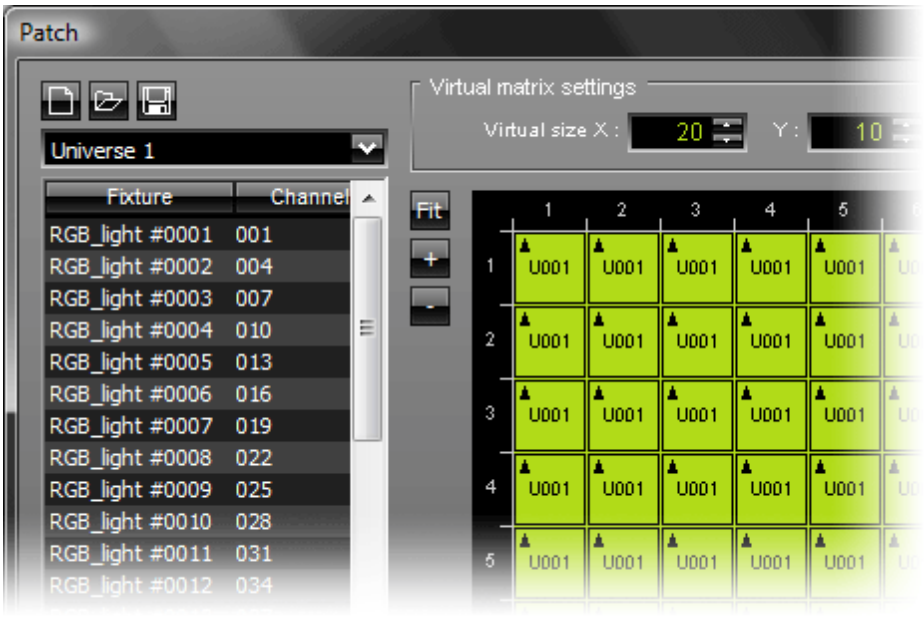
## 3.2 Patch




After the start of the software you have to define your light matrix in MADRIX. To do that, you can use the Matrix Generator or the Patch. To open the Patch click at the menu **Preferences --> Patch** or press the **F3** key.

At the left side of the Patch window you see the lighting fixtures with their DMX channels and the DMX universe. You can create a new, open or save a Patch by clicking at the three buttons.

### First Step - Set up the virtual matrix

First you have to setup the virtual matrix size. At the top of the Patch window you can set up the dimension in x and y for the virtual matrix. If you have a RGB installation, set the Color depth to value 3.

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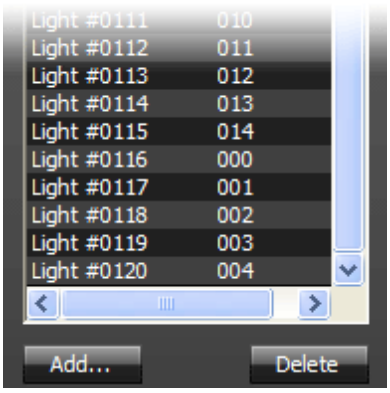
If you have a RGBW installation, set the Color depth to value 4. If you have an one channel lighting fixture installation set the Color depth to value 3. Next click the Apply button to apply your settings.

**Now you can add the lighting fixtures to the virtual matrix.**

## Second Step - Add lighting fixtures




To add lighting fixtures click the **Add.. button**. A new window will be opened. Inside the first drop down list for "Fixture" you can select the lighting fixture.

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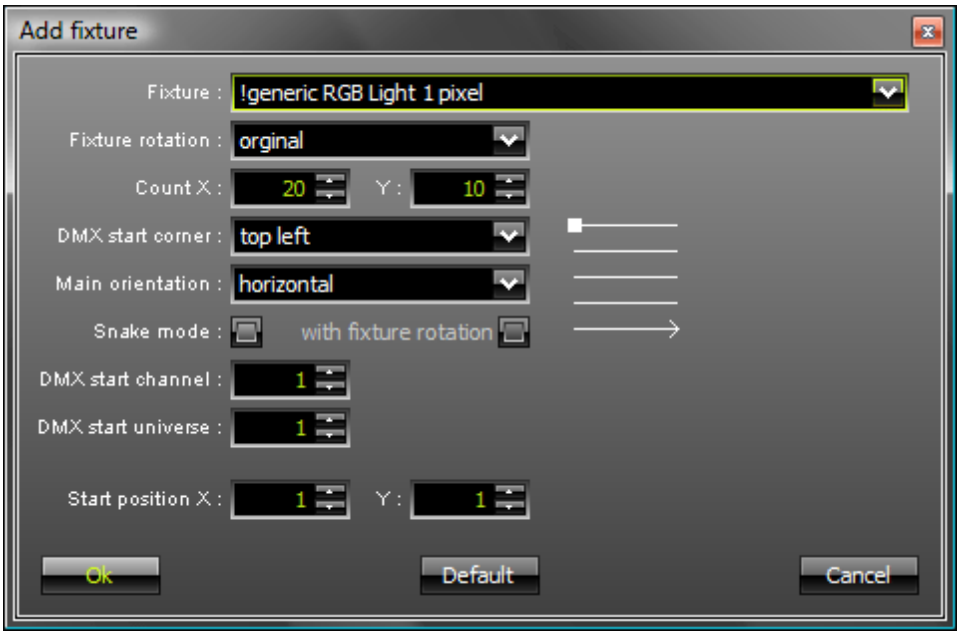


A new window is being opened. Inside the first drop down list for "Fixture" you can select the lighting fixture.

MADRIX offers you the possibility to set a rotation in the field fixture rotation. With "fixture rotation" you rotate the hole defined light matrix. All fixtures will be rotated!

Now you have to define the number of lighting fixtures that exist in the horizontal in the input field X, and in the input field Y the number of lighting fixtures existing in the vertical.

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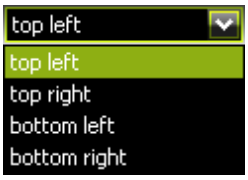
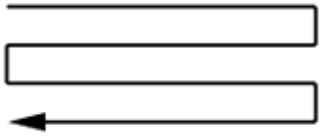
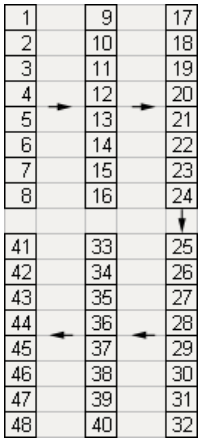



In the drop down list start corner you have to define where the DMX addressing starts. In main orientation you select, how the addresses are ordered (horizontal or vertical).



Activate the snake mode if you have set the DMX addressing like seen on the picture. By activating the snake mode you can activate additional with fixture rotation.




If you have activated the switch snake mode and with fixture rotation every fixture in your second line will be rotated by 180°.

On the right side you see a demonstration picture with dmx channels of an 3 x 2 installation with activated snake mode and activated with fixture rotation.

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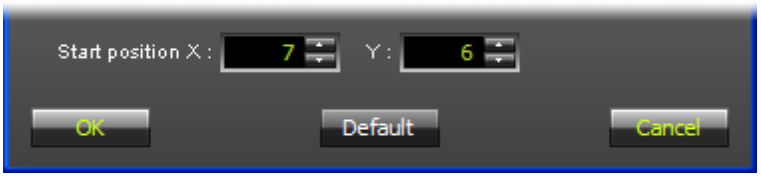
At the end you have to select which DMX start channel and the DMX Universe (start Universe).

Please check your installation for linear addressing of the lighting units in horizontal and vertical direction.




With Start position x and y you define where the fixture will be placed at your virtual matrix. Now click the OK button to close this window.

You can now add more lighting fixtures to the virtual matrix by repeating this steps.

## ONE fixtures: name, position, rotation ...

To select one fixture click at the left side inside the fixture list and select your fixture or click inside the patch at the fixture with the left mouse button. You can also press and hold the left or right shift key and mark your fixture with your left mouse button.

If you have a fixture selected you can edit this fixture. Change the name, set a Rotation, change the DMX channel, Universe and the position X any Y. At the left side you see absolute values like Position X: 15 / Position Y: 1 at the right side you have the possibility to change the values by using offset values (relative).

## MULTI fixtures: name, position, rotation ...

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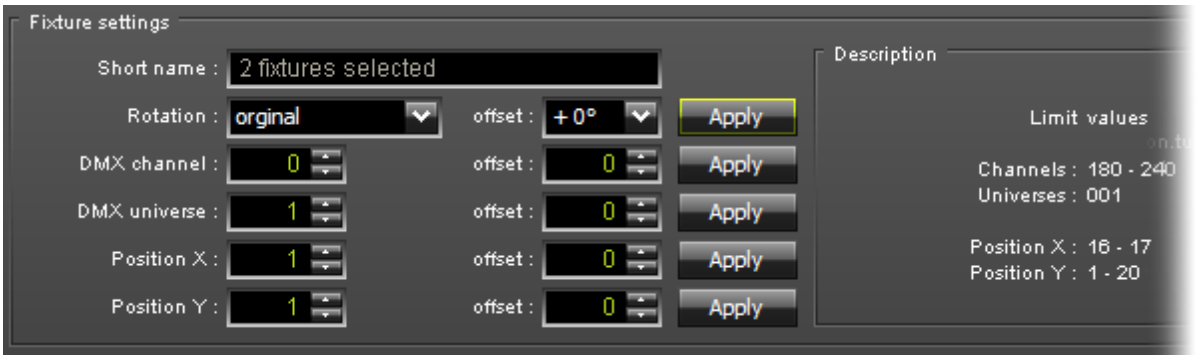


To select more than one fixture click at the left side inside the fixture list and select your fixture after that hold the Ctrl key and select the next. You can also press and hold the left or right shift key and mark your fixture by holding the left mouse button and moving your mouse.

If you have more than one fixture selected you can edit this fixtures. You can't change the name in the multi fixture mode. You can set a Rotation, change the DMX channel, Universe and the position X any Y. At the left side you see absolute values like Position X: 1 / Position Y: 1 at the right side you have the possibility to change the values by using offset values (relative).

## 3.3 Using a storage, submaster and cue function

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Inside MADRIX you have **2 x 60 storages** to save your effects. You find this storages in the area for Storage A and Storage B. Click on the desired storage, choose an effect 56 from the effect arrea and set it up.

After setting up your effect, the effect and all settings will automatically be saved at this storage. You see a light at the lower right corner of a button if you have choose and modified an effect at this storage. This corner light indicates you that this storage place is not clear.

If you choose (activate) a storage by clicking by your mouse this button will have a colored button.

At the right side of the storage area you will find five buttons. You can load a storage place to the activated storage place by clicking the first (top) button. With the help of the second button you can save the activated storage place. If you want to copy a storage place to an other storage place press the third button. You can paste this copied storage place by clicking the fourth button. The last button with the recycler icon is for clearing the activated storage place.

## submaster and cue function

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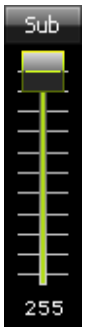


At the bottom of the storage area you will find a sub and cue button and an area for text input. With the sub button you can open the submaster. This submaster can be used to control the intensity of the activated storage. You can easy move the fader with your mouse. Remember this submaster is only for the activated effect and not the master. If you want to adjust the global intensity you have to use the masterfader.

If you click on the cue button the activated storage will be automatically saved inside the cuelist with all used parameters like the fade duration, fade type etc.

## 3.4 Speed Master

With the help of the speed master you can set up the speed of the effect at a storage place. Move the fader upwards to increase the speed of the running effect. Move the fader downwards to decrease the speed of the running effect. A value at the fader indicates you if you have a positive or negative acceleration.

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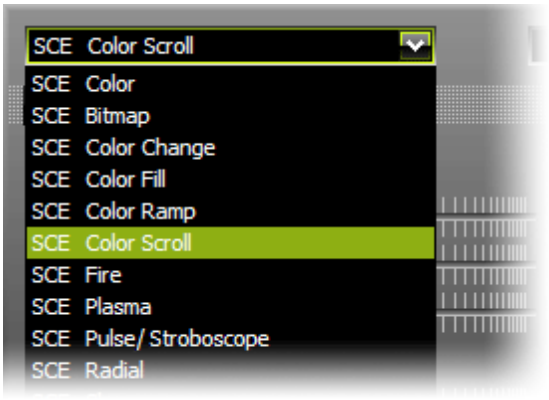
If you click twice at this control you set the speed to the default value "1.0". With the pause button you can pause the effect.

**Furthermore, MADRIX offers you the possibility to control the Speed Master with your lighting desk or MIDI controller. Please read the chapter DMX-IN and ArtNet remote or MIDI Remote Control.**

## 3.5 The effects




You can select an effect from the drop down lists in the Effect-Box A or B. You can choose Static Color effects (SCE) 76, Sound2Light effects (S2L) 108, Music2Light effects (M2L) 126 and MAS Script Effect 73.

The selected effect will be automatically saved at your activated (clicked) storage. Every effect has its own parameters and setup possibilities. The effects will be explained more in detail here in the chapter The MADRIX effects 73.

After setting up an effect, the effect and all settings will be automatically saved at this storage.

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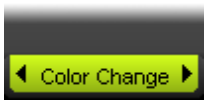
## 3.6 The layers

Layers are stacked on top of each other, and depending on the order, the final picture changes appearance. A Layer can have a certain opacity and a number of other properties. Layers gives a skilled MADRIX user a lot of flexibility.

**Layers are used in MADRIX to compose your own amazing effects.**

If you want to use layers you have to setup an effect first. This effect is now automatically a layer also if you have only one effect running. That means that each created effect is also a layer at the same time.

You see three buttons at the layer area. Click on the **first button** to **create a new layer**. By clicking on the **second button** you **duplicate** the active layer. A new layer will be created with the same setup like the selected layer. If you want to **remove/ delete** a layer click on the **third button**. The selected layer will be removed.




Now you can move a layer to the left and the right by simply clicking on the arrows at the active layer tabs.

A Layer can have an opacity, mix mode and other properties. They give skilled MADRIX users a lot of flexibility. The Layers can blend using one of several modes which result in different color combinations.

### Layer opacity

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Use layers to overlap other layers. The opacity fader decides about the opacity of the top layer. You have a 100% coverage by pulling the layer to the fare right. Is the position of the fader in the middle you have an opacity of 50%.

**Hint:**
If you double click (left mouse button) at the Fader slider the Fader will move in the middle exactly at 50% opacity.

## Layer mixing modes

If you want to use the Layer mixing modes please click the button between the Map and the Link button. Click and hold the left mouse to select a mix mode. In this example you see the mix mode Multiply/Mask.

You can choose between **over 20 different layer mixing modes**. The mixing mode options in the layers let you change the mixing with the layers underneath. Keep in mind that a layer's opacity and mixing mode interact with the opacity and mode of the underneath layers.

**You can select between the following mixing modes:**
Normal, Darken, Multiply, Color Burn , Linear Burn, Lighten, Screen, Color Dodge, Linear Dodge, Overlay, Soft Light, Hard Light, Vivid Light, Linear Light, Pin Light, Hard Mix, Difference, Exclusion, AND, OR, XOR and Mask

## Linking layers

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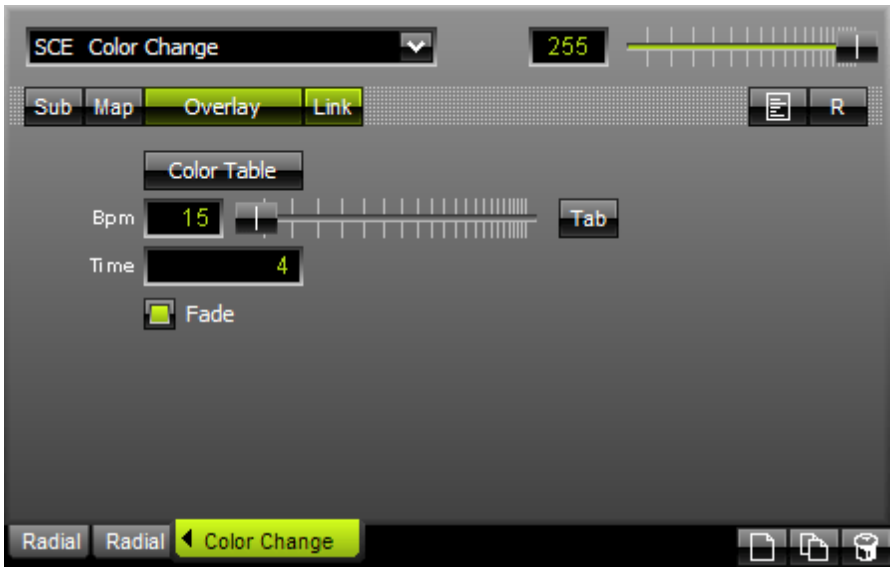
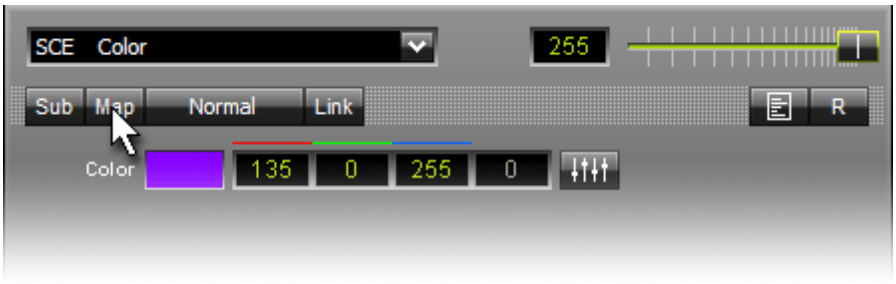
With the **Link button** you can link two layers. Linking layers is very useful only if you have three or more layers. If you activate the Link mode the actually selected layer is linked and rendered with the layer under it.




In this example you see three layers. The first layer is Plasma, second Radial and third Pulse/ Stoboscope. The Pulse/ Stroboscope layer is linked with the layer below Radial by activating the Link button at the Pulse/ Stroboscope layer.

## 3.7 Map, Tile and Rotation

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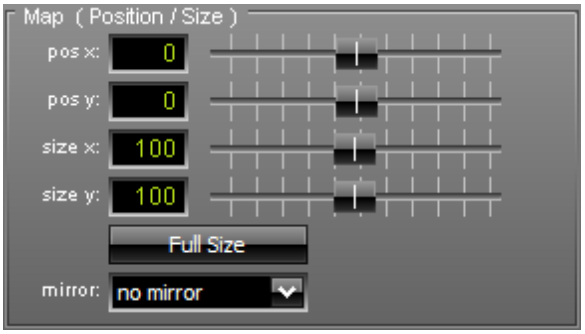
You can **map effects** to an **area** of your **matrix size**. To do that click inside an effect the map button. A new window will be opened.




In the **Map area** you define the size of the selected layer / effect. **Pos x** defines the position in x. **Pos y** defines the position in y. With **size x** and **size y** you can define the size of the layer / effect. You can make a effect larger or smaller than the virtual matrix size. Some presets like Full Size, Double Size, Half Size, Top, Bottom, Left ,Right ... you have at the quick select button. With **Mirror** you can mirror effects horizontal, vertical and horizontal-vertical at the same time.

> If you have more than one mapping you see the other layers as a colored rectangle inside this window.

Inside this input fields you can also enter **negative values** to map an effect to an outside area or an outside inside area. Also you can use your mouse to move the colored map square or the faders.

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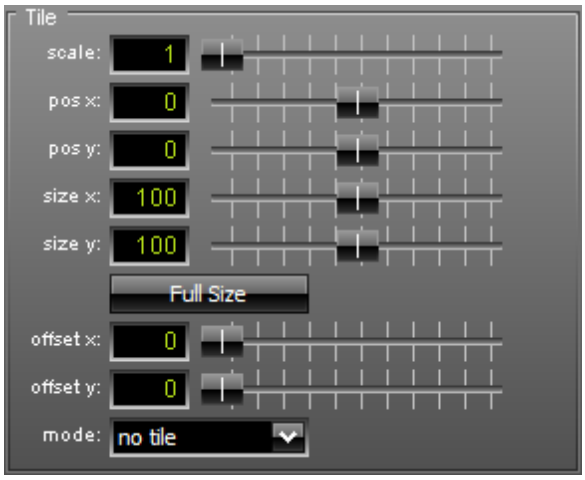


In the **Tile area** you define a tiling of the selected layer / effect. **Scale** is a factor for the size in x and y. If you move the fader to the value 4 or you enter the value 4 that means you have 1/4 size if the original size and the mode is set automatically to repeat mode. **Pos x** defines the position in x. **Pos y** defines the position in y. With **size x** and **size y** you can define the size of the layer / effect. You can make a effect larger or smaller than the virtual matrix size. **Offset x and y** defines the spacing between the repetition.

Some presets like Full Size, Double Size, Half Size, Top, Bottom, Left ,Right ... you have at the quick select button. With **mode** you can repeat, mirror horizontal, mirror vertical and mirror horizontal-vertical effects at the same time.

In the **Rotate** area you can rotate your effect. Move the fader left to rotate clockwise. Move the fader right to rotate counterclockwise. Activate a permanent rotation by

clicking at the animation button.

By clicking at **%** button you can define the mapping / tiling with percentage values.
By clicking at **px** button you can define the mapping / tiling with values in pixel.

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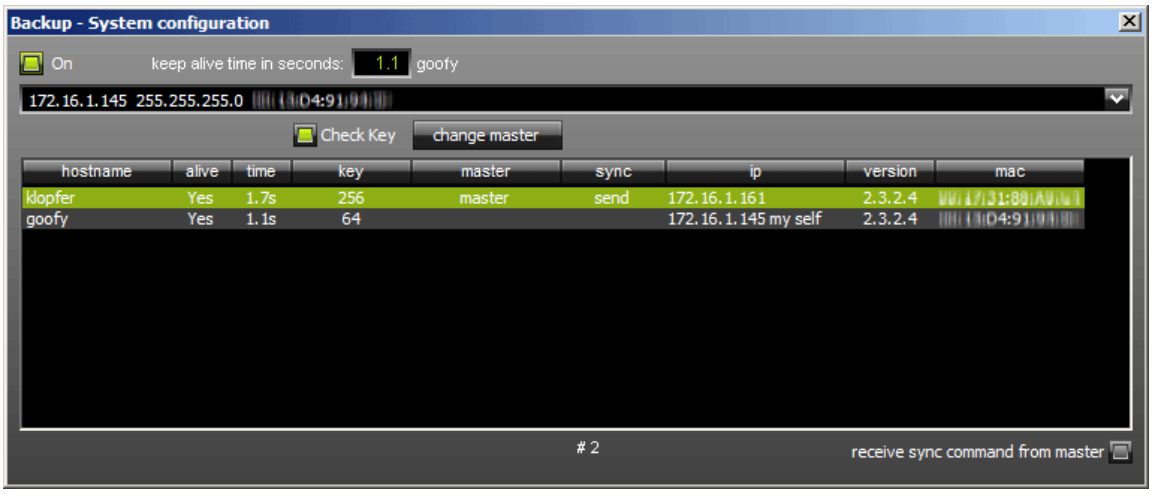
## 3.8 Backup System - Master / Slave

The MADRIX **Backup System** (Master/Slave) is a model for a communication protocol between two or more MADRIX computers for a professional backup solution. Keep alive messages are sent by one MADRIX computer to another to check that the link between the two is operating. If the Master fails - Master sends no keep alive messages in the keep alive time range - the Slave is automatically switching on the sending of DMX512 data. The Slave is also sending keep alive messages. This feature is awesome for setting up a backup solution with more than two computers.

### How it works?

After the start of the software you can set up the Master - Slave / Backup System in MADRIX. To do that, please click at the menu Preferences --> Backup System.




Next switch on the Backup by activating the switch ON at the top left corner. If you have more than one network card inside your computer or laptop you can choose the network in the upper drop down list.

By activating the Check Key switch, you can check if the MADRIX software protection key is is plugged into this remote computer. Additionally you see the MADRIX license - how many DMX universes are supported.

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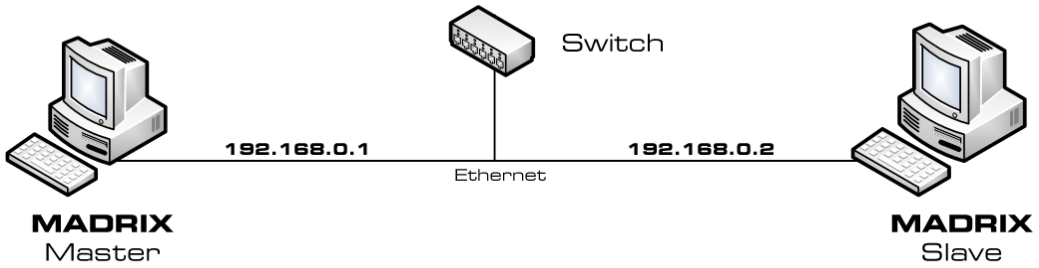
You can set up the keep alive time in a time range of 0.1 ... 25.6 seconds. Keep alive time is the duration between two keep alive transmission.

If you activate receive sync from master this computer will receive synchronization data from another computer (Master).

You can select another computer from this list and click at the change master button to set this computer as your Master. You can't select your local computer as a Master, you have to choose a remote computer as a Master.

## How to connect the Master and Slave?




You can use your network card with an ethernet connection to connect two ore more computers using a network switch. Set up the IP addresses from the computers like in the picture above. Both computers have to be in the same network area. (e.g. 192.168.0.1 ... 192.168.0.254)

## Example - How to use the Backup System and ArtNet.

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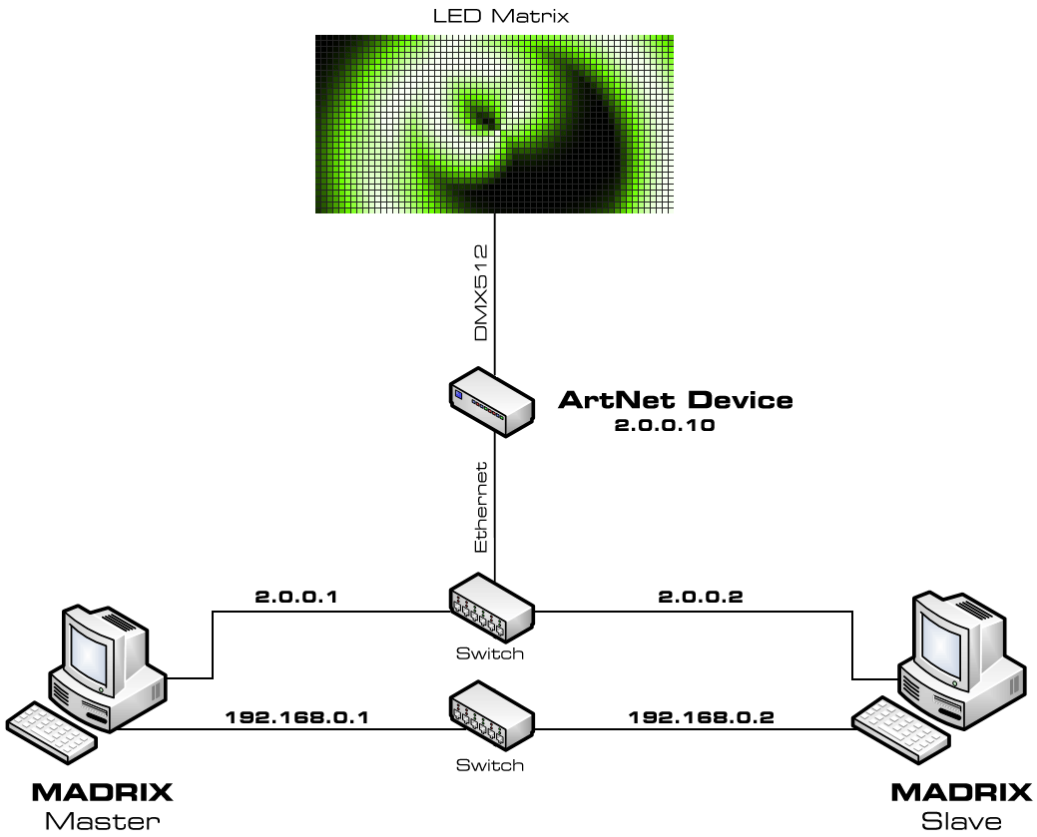


We suggest always using two separate networks with two network cards if you want to sync Master / Slave and you want to use ArtNet.

You need at least two computers, two ethernet switches, one ArtNet device, ethernet cables and DMX cables.

In both computers are two network cards installed. The set up for the first network card is 192.168.0.x and the second is 2.0.0.x. The first one is used for the backup system the second for transferring ArtNet data.

## Example - How to use the Backup System and USB DMX512 interfaces.

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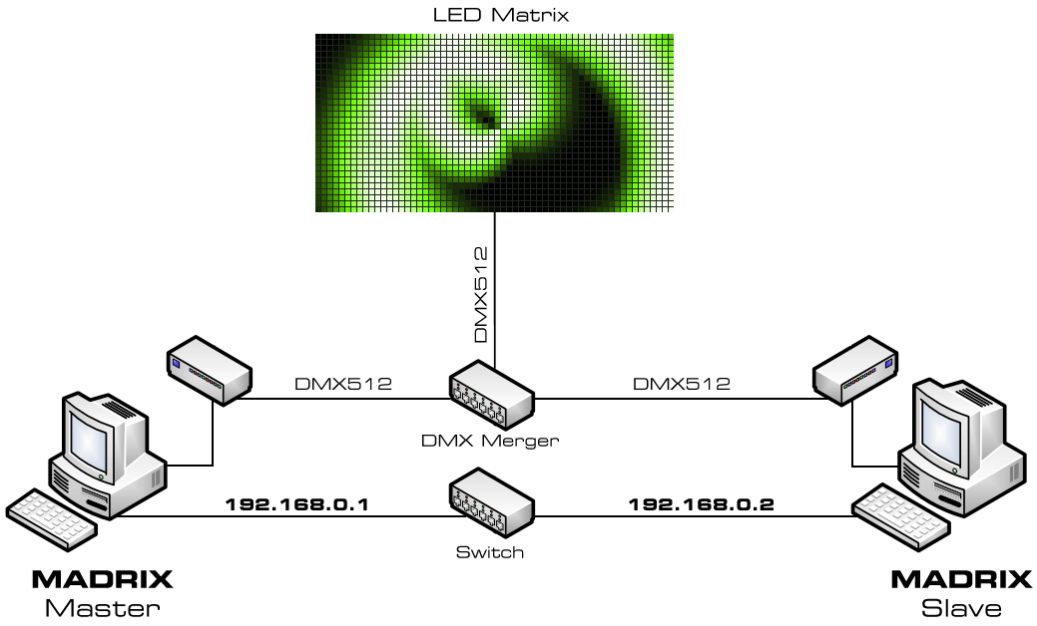


If you want to use e.g. USB DMX512 interfaces, PCI cards, PCMCIA devices you can work with one network card to sync the Master and the Slave.

You need at least two computers, one ethernet switch, one DMX merger, two DMX512 devices, ethernet cables and DMX cables.

In both computers is one network card installed. The set up for this network card is 192.168.0.x. This card is used for the backup system.

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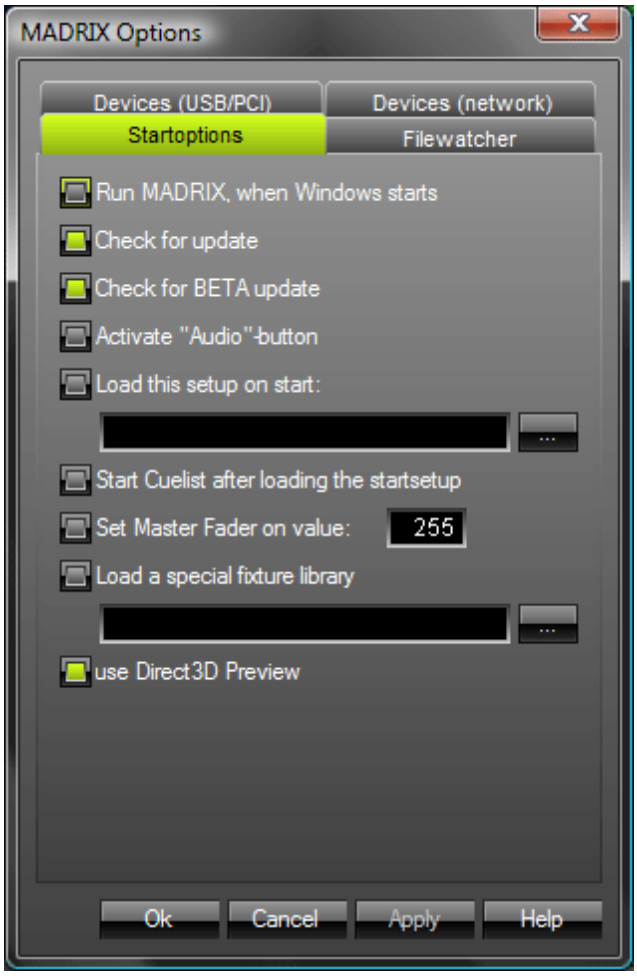
# Part IV

# 4 MADRIX Options

## 4.1 Startoptions

To open the MADRIX Options press **Ctrl+Alt+O** or go to the menu **Preferences --> Options.**

### Startoptions




With the help of the Startoptions you can decide which feature should be enabled if you start MADRIX or your computer.

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If you activate **Run MADRIX, when Windows starts** MADRIX starts automatically if you login into Windows. If you activate the feature **Check for update** MADRIX searches automatically for newer versions. If you activate the feature **Check for BETA update** MADRIX searches automatically for newer beta versions.

Use a activated **"Audio"-button** only if you have Sound2Light and/or Music2Light effects in your Cuelist or you want to use them. You can also load a custom setup if MADRIX starts by activating **"Load this setup on start:".** If you have programmed a Cuelist and you want to play this Cuelist automatically activate the switch **Start Cuelist after loading the startsetup.**

You can set the Master Fader to a specific value if you activate the switch **Set Master Fader on value:.** If you have created special / own fixtures using the Fixture Editor and you want to load this fixture library if MADRIX is started activate the switch **Load a special fixture library.**

## 4.2 Filewatcher

To open the MADRIX Options press **Ctrl+Alt+O** or go to the menu **Preferences --> Options.**

### Filewatcher - automatic reload of the Cuelist

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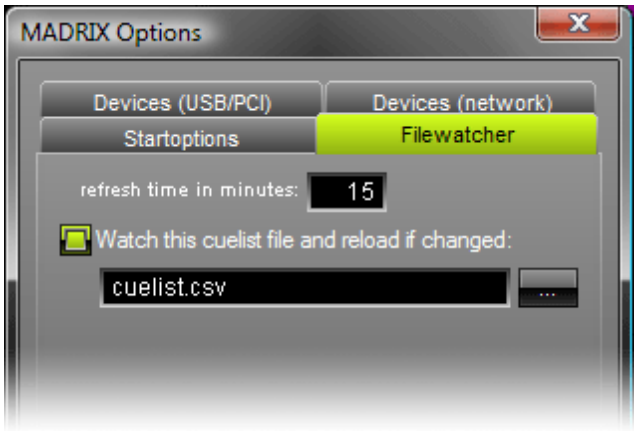


MADRIX can automatically reload a cuelist within a defined refresh time. To activate this feature go first in the MADRIX Options by pressing **Ctrl+Alt+O** or go to the menu **Preferences --> Options.**

**Activate** now within the Filewatcher tab **"Watch this cuelist file and reload if changed"** and select the Cuelist file.

## 4.3 Devices (USB/PCI)

To open the MADRIX Options press **Ctrl+Alt+O** or go to the menu **Preferences --> Options.**

### Devices (USB/PCI)

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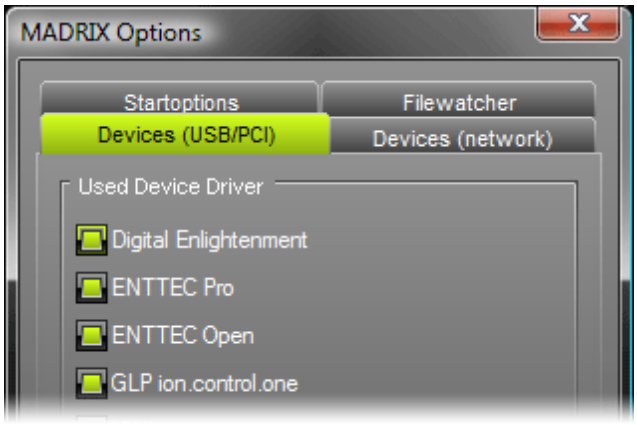


MADRIX searches at startup automatically for all known and supported USB, PCI, PCMCIA ... DMX512 devices. You can **speed up the loading / starting time** of MADRIX if you only activate DMX512 devices which you want to use.

## 4.4 Devices (network)

To open the MADRIX Options press **Ctrl+Alt+O** or go to the menu **Preferences --> Options.**

### Devices (network)

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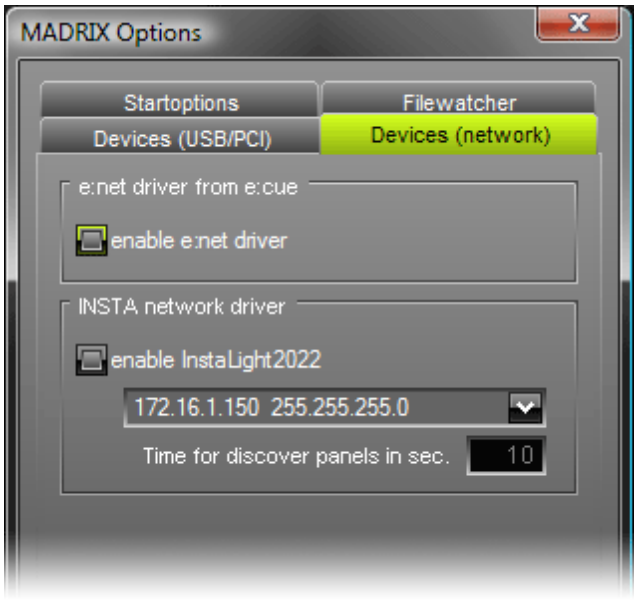


MADRIX searches at startup automatically for all known and supported network devices. You can **speed up the loading / starting time** of MADRIX if you only activate network devices which you want to use.

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# Part V

# 5 MADRIX Effects

SCE Static Color Effects 76

SCE - Static Color Effects are color effects. Use the MADRIX static color effects and you are only one click away from amazing light effects!

S2L Sound2Light Effects 108

S2L - Sound2Light Effects need an audio input signal and generate synchronous light effects to the music.

M2L Music2Light Effects 126

As a special highlight, MADRIX offers you Music2Light effects. The music is being analyzed with tone theoretical parameters. MADRIX analyze the height of tones, volume and also e.g. single tones, intervals, keys and tonalities.

MAS Script Effect 73

The Script effect gives you the possibility to program your own effects. With the script language it is possible to put all your wishes and ideas into practice.

## 5.1 MAS Script effect

**The complete MADRIX script language is described in the MADRIX Script documentation and help.**

**You find this documentation in the Start menu --> All Programms --> MADRIX --> Documentation --> MADRIX Script Help.**

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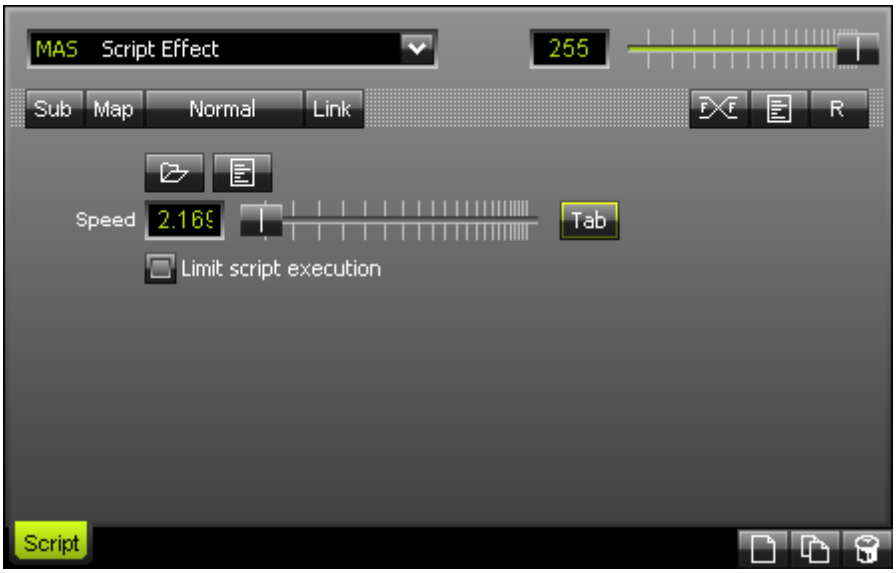


MADRIX offers numerous effects to create a lightshow. But there are also many effects which are not implementable.

The **Script Effect** gives you the possibility to **program your own effects.** With the script language MADRIX Script it is possible to put all your wishes and ideas into practice.

This document is for all those who want to develop light effects by the help of MADRIX Script. This does not require any programming knowledge.

The components of this language will be explained by different examples. The first step for you will only be to copy this examples. In the second step you can try to change the examples. So you can get a feeling for the programming language and the syntax. It's the same like in real life: Practice makes perfect!

Inside the MAS Script effect you can **load** a MADRIX script by clicking at the **load button**. You can **open the Script Editor** by clicking at the **right button**.

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If you have a script that needs a long execution time - long execution time means between two calls of the script the script is not finished with calculations the "Limit script execution" function will stop the actual execution and begins the script from start. **This will save MADRIX stability and performance.**

### Using the Tab Button for Manual BPM Input

Within this effect, a special function for Manual BPM Input is included. If you want to have a synchronous movements to the beat of the music, press the Tab button. Press this button at least four times in a row in the beat of the music (1/4 notes) e.g. with your mouse. MADRIX automatically calculates the BPM values.

## 5.2 Macro - control running effects

### The complete MACRO / MADRIX script language is described in the MADRIX Script documentation and help.

**You find this documentation in the Start menu --> All Programms --> MADRIX --> Documentation --> MADRIX Script Help.**

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**With macros it is possible to control effects and change its results.**

**Macros are also written in MADRIX Script but are a part of an effect.** On the one hand they can be used to **manipulate the result of an effect**. For example do parts of it transparent or change the color for example by a grey filter. On the other hand macros can be used to **change settings of an effect.** For example a Macro can set the text of SCE Ticker to current time.

To run a macro for an effect click the **macro button** from the effect. The MADRIX own script editor will be open. There you can write, load and edit existing macros. For further information read the MADRIX Script documentation.

## 5.3 Static Color Effects (SCE)

SCE - Static Color Effects are color effects. Use this MADRIX static color effects and you are only a few clicks away from amazing light effects!

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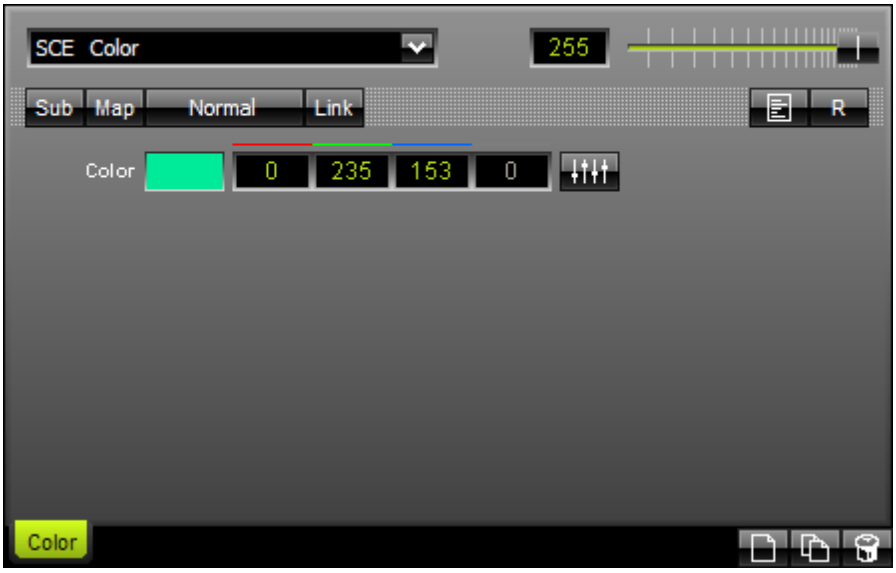
### 5.3.1 SCE Color




The SCE Color effect renders a plain color. As setup possibilities you have values for Red, Green, Blue. (And White if you have a RGBW fixture.)

You can enter the values with the keyboard or move the faders with your mouse. With the reset button you can set this effect back to the default values.

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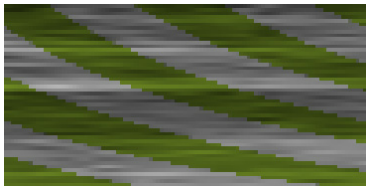
### 5.3.2 SCE Bitmap



With the SCE Bitmap effect, you can load **one or more bitmaps** at ones. You can open the following image file formats: **JPG, GIF, PGN, TIF** and **BMP** by clicking at the **Image Table button** or the **file open button**. MADRIX also supports the **animated GIF** format.

With the direction arrows you decide which way the Image should be moved. You can display the loaded image as a grey scale image. Click the **Greyscale** switch. By clicking **Stretch** the loaded image is resized to the matrix size. With the help of the Filter color you can change the look of your loaded image. The Filter color is for manipulate the color values of the loaded image.

The switch **Tile** is for tiling the image on the matrix size. **Bpm** decides how fast the image is being moved. If you put in a large value in **Anim Speed**, the loaded images are being switched faster inside the Image Table. The Anim Speed is a factor for the animation speed. The values can be entered smaller than 1, e.g. 0.5. This cuts the speed of the animation by half.

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RGB to RGBW

If you have a RGBW installation and you want to use the white channel you must activate the mode RGB to RGBW. Television screens and computer displays work with pixels (picture element) red, green, and blue (RGB). Also the computer bitmaps / images are saved in RGB mode.

**MADRIX has a integrated color space conversion from RGB to RGBW.**

To load an image click on the File open button or the Image Table button. Inside the window you can load one or more images. The number in **"Time"** determines how long a bitmap is being shown. In this example the time is set to 0.02 seconds. The created bitmap list can be saved and loaded.

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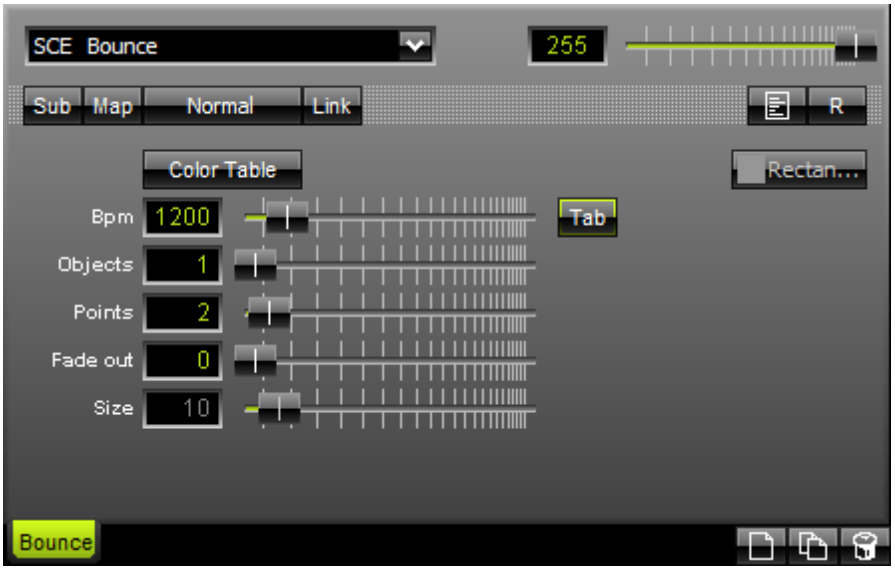
If you want to swap the images in the Image Table select first the entries you want to swap and next press the swap selected images in list button. Click Close to exit this dialog.

### 5.3.3 SCE Bounce

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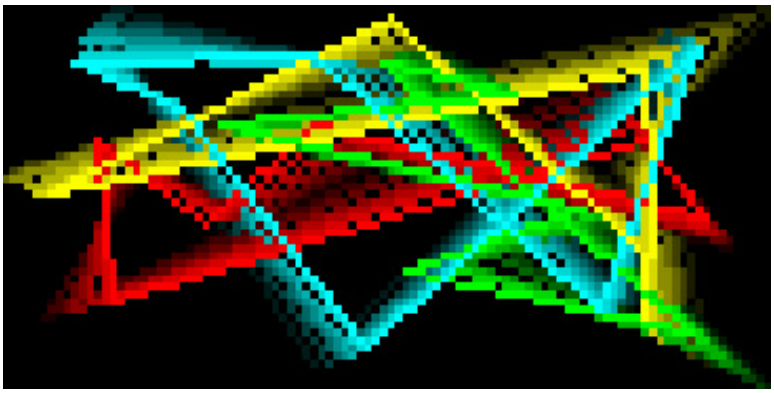
The SCE Bounce effect renders bouncing lines. As setup possibilities you have values for the **Bpm** (Speed), **Objects**, **Points**, **Fade out time**, **size** and modes. With the help of the Color Table you can define the colors for the bouncing lines.



If you move the **Points** fader to left to **value 1** you can select some modes like rectangle, circle, cross etc. and you can change the **Size value**.

You can enter the values with the keyboard or move faders with your mouse. With the reset button you can set this effect back to the default values.

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### 5.3.4 SCE Color Change

The SCE Color Change Effect renders a color like the SCE Color Effect. But beyond that you can program a color changing.

In the input field Time you can enter the time in seconds, in which the next color should be displayed. For setting the colors please click on the button **Color Table** after entering your desired time.

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Inside a new window you can enter through the input fields for red, green, blue and white the numerical values from 0 to 255. You can enlarge your list with a new color value by pressing the + button. Existing entries can be deleted from the list by marking it and pressing the - button. You can select the order of you entries (colors) with the arrow upwards and the arrow downwards. For doing that, simply mark the color and press the arrow upwards key or arrow downwards key.

With the load button (L) you can load color tables, and with the Save button (S) you save. The number of entries on the list can be seen in the lower part of the window. In this example we have six entries in the list (#6). To close the window click Close.

**HINT:** The next color will cross-fade the first color after a time. The last color will be automatically cross-faded to the first in the list.

### 5.3.5 SCE Color Fill

The SCE Color Fill effect offers you six different filling effects. Through mode you can choose the effects **Random, Drops, Snake, Flat, Collapse** and **Tetris**.

Filltime determines how many seconds the effect will have to fill the matrix completely. Duration is the time between two effects. With that you set the breaks between the fillings in seconds.

#### SCE Color Fill - Random mode

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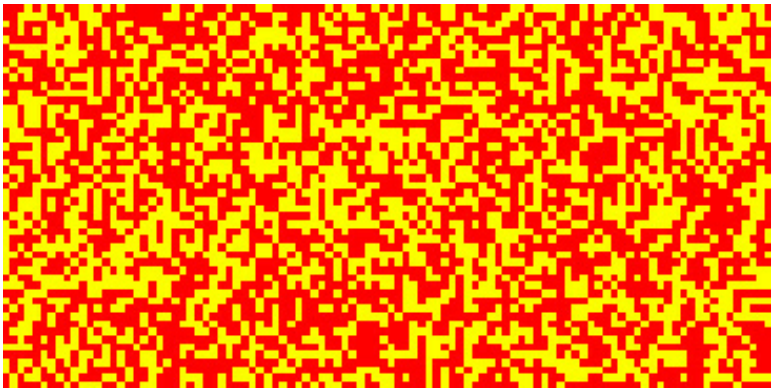
The SCE Color Fill in Random mode fills the matrix randomly with colors. To set up the colors press the Color Table button.



If you activate **Mix color** all colors inside your Color Table will be used at the same time and you have a colored result.

You can set up the **Filltime** in seconds and the **Duration** in seconds.

## SCE Color Fill - Drops mode

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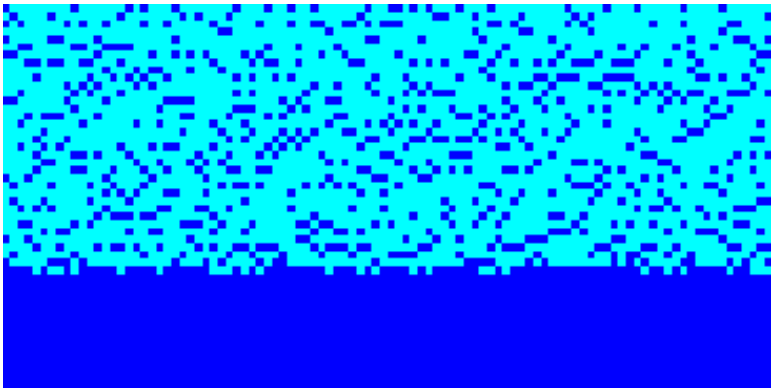
The SCE Color Fill in Drops mode fills the matrix with colored drops. To set up the colors press the Color Table button.



If you activate **Mix color** all colors inside your Color Table will be used at the same time and you have an colored result. You can set up the **Filltime** in seconds and the **Duration** in seconds.

To set up the direction of the drops use the direction buttons at the right side.

## SCE Color Fill - Snake mode

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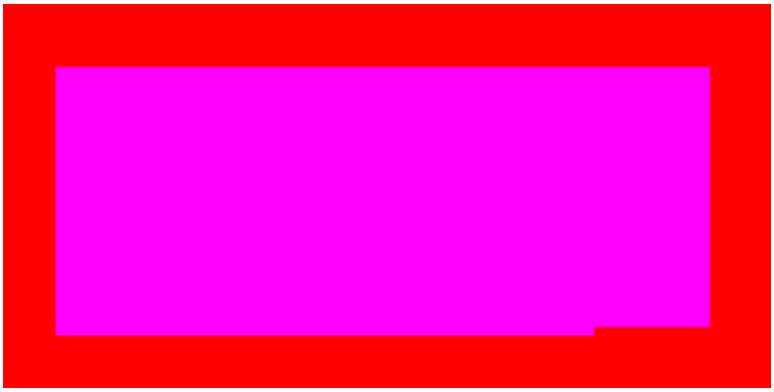
The SCE Color Fill in Snake mode fills the matrix with colors. To set up the colors press the Color Table button.



If you activate **Mix color** all colors inside your Color Table will be used at the same time and you have an colored result. You can set up the **Filltime** in seconds and the **Duration** in seconds.

Also you can set up the start, direction, orientation and some modes like mirrored, centered, circled for this effect.

## SCE Color Fill - Flat mode

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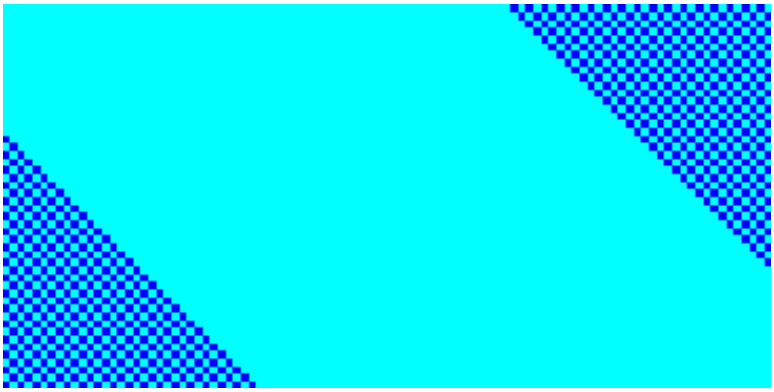
The SCE Color Fill in Flat mode fills the matrix with colors. To set up the colors press the Color Table button.



If you activate **Mix color** all colors inside your Color Table will be used at the same time and you have an colored result. You can set up the **Filltime** in seconds and the Duration in seconds.

To set up the direction of the drops use the direction buttons at the right side.

## SCE Color Fill - Collapse mode

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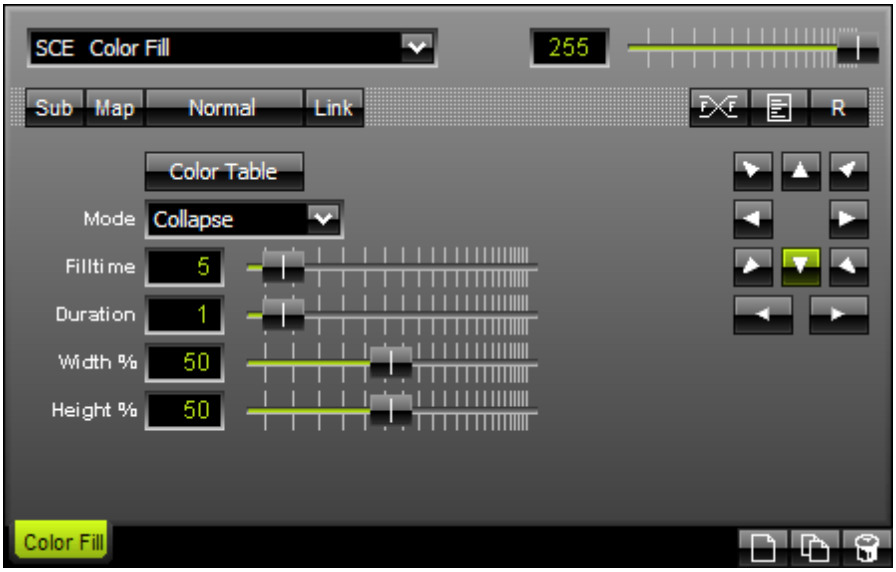
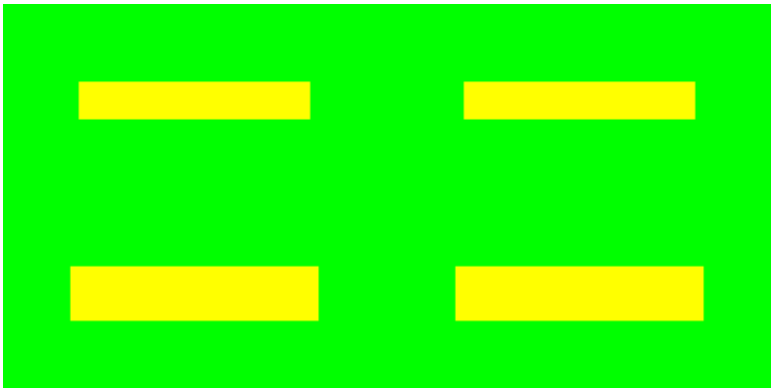



The SCE Color Fill in Collapse mode fills the matrix with colors in Tetris style. To set up the colors press the Color Table button.



You can set up the **Filltime** in seconds and the **Duration** in seconds the **Width** and the **Height** in percent.

To set up the direction of the drops use the direction buttons at the right side.

## SCE Color Fill - Tetris mode

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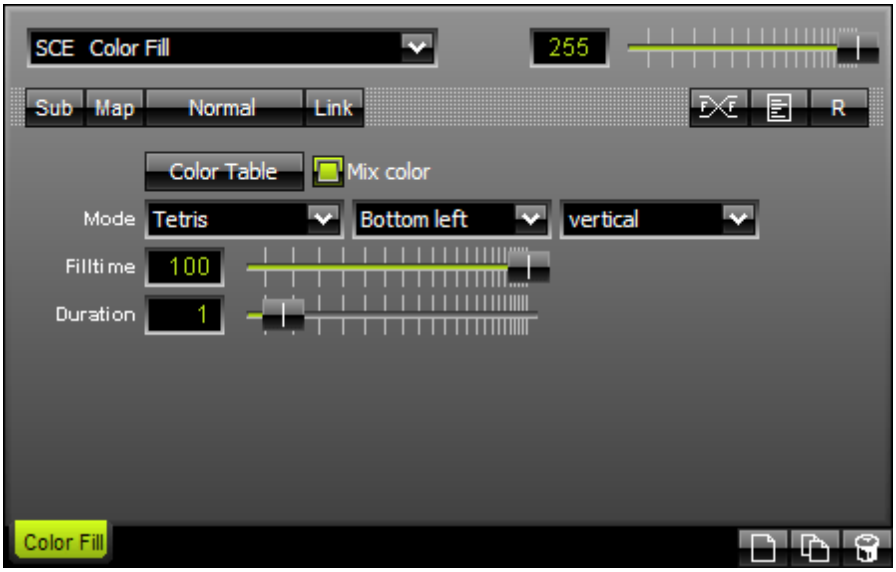
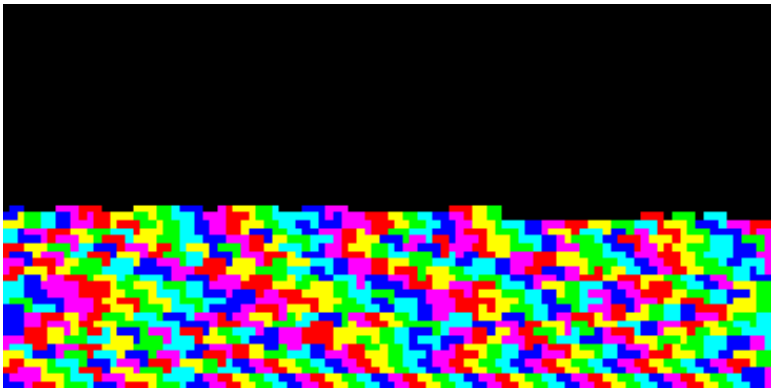



The SCE Color Fill in Tetris mode fills the matrix with colors. To set up the colors press the Color Table button.



If you activate **Mix color** all colors inside your Color Table will be used at the same time and you have an colored result. You can set up the **Filltime** in seconds and the **Duration** in seconds.

Also you can set up the **start** and the **direction**, **orientation** for this effect.

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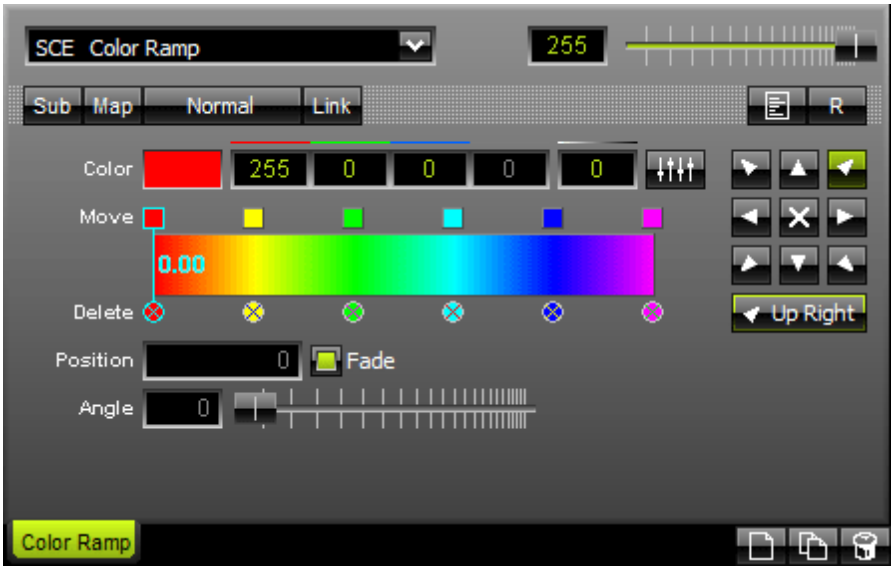
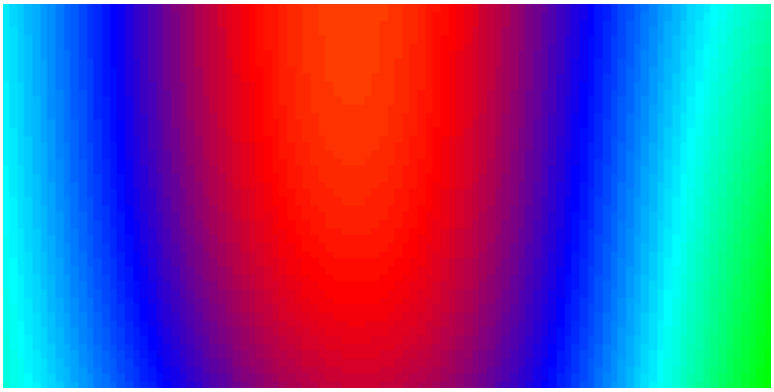
### 5.3.6 SCE Color Ramp




The SCE Color Ramp effect renders a color gradient. As setup possibilities you have the values for Red, Green, Blue and White.



You can enter the values with the keyboard or easy with your mouse by clicking first on the color you want to change and next inside the small color control left from the color input fields.

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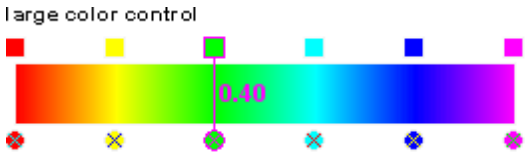


If you want to move a color: first click the color at the large color control hold the left mouse button and move the mouse left or right. One Click at the bottom delete area of the large color control removes the color. One Click inside the large color control adds a new color at this position.

Furthermore you can define the **direction** of the gradient by simply clicking onto the direction buttons.

If you want to have smooth gradients press the **Fade** button.

### 5.3.7 SCE Color Scroll

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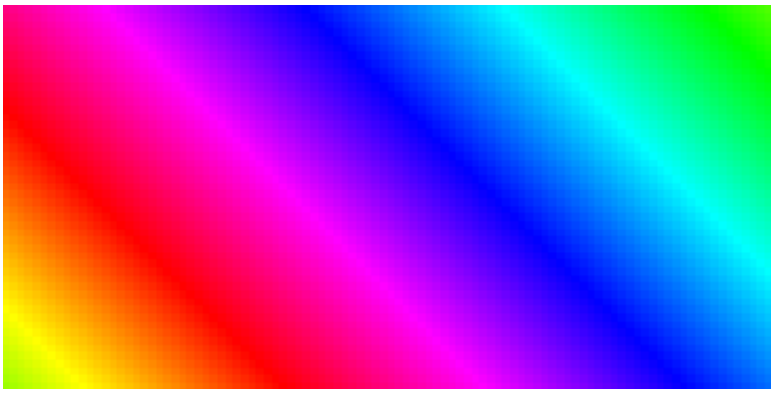
The SCE Color Scroll Effect renders a moving color gradient.



Inside the input field **Bpm** you can enter the speed of the gradient. Small values results in slow and large values in a fast movement.

The **Offset** sets the distance of the colors within the gradient. Activate the **random** function with the button **Rnd** to achieve a random length of the gradient. In the input field Rnd you can define the value of the minimum to maximum length.

To set the colors please click on the button Color Table after entering your desired time. Inside a new window you can enter through the input fields for red, green, blue and white the numerical values from 0 to 255. You can enlarge your list with a new color value by pressing the + button. Existing entries can be deleted from the list by marking it and pressing the - button. You can select the order of you entries (colors) with the arrow upwards and the arrow downwards. For doing that, simply mark the color and press the arrow upwards key or arrow downwards key.

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With the load button (L) you can load color tables, and with the Save button (S) you save. The number of entries on the list can be seen in the lower part of the window. In this example we have six entries in the list (#6). To close the window click on Close.

These arrows define the direction from where the gradient should start. Press the downwards arrow if you want the gradient to come from top to bottom. Press the upwards arrow if you want the gradient to come from bottom to top. With the cross in the middle you achieve working in the opposite direction. With this four buttons you can simulate the direction of the gradient from outside in or from the inside out. You can activate the counter rotate with the cross in the middle.

## Using the Tab Button for Manual BPM Input

Within this effect, a special function for Manual BPM Input is included. If you want to have a synchronous movement of colors to the beat of the music, press the Tab button. Press this button at least four times in a row in the beat of the music (1/4 notes) e.g. with your mouse. MADRIX automatically calculates the BPM values.

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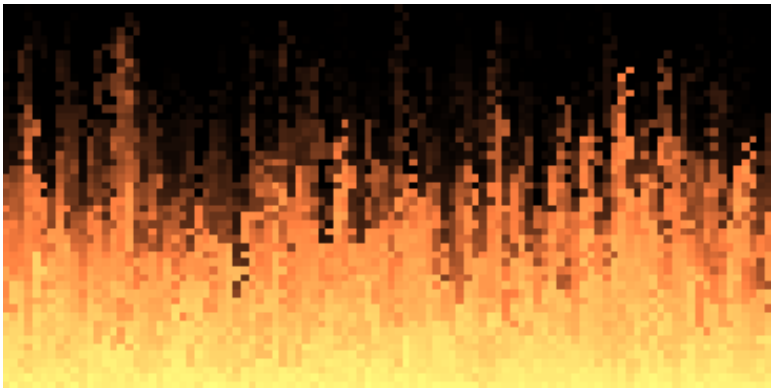
### 5.3.8 SCE Fire

The SCE Fire effect renders a colored fire. Inside the input field **Bpm**, you can set the speed of the fire. The speed can be set up between 1 and 9999. With **Height** you can choose the height of the fire. The flames height can be set from 1 to 32.



With the button RG, RB, GR, GB, BR and BG you can set the colors of the flames. The single colors arise from the additive color mixtures through RGB. RG for red – green, RB for red – blue, GR for green – red, GB for green – blue, BR for blue – red and BG for blue – green

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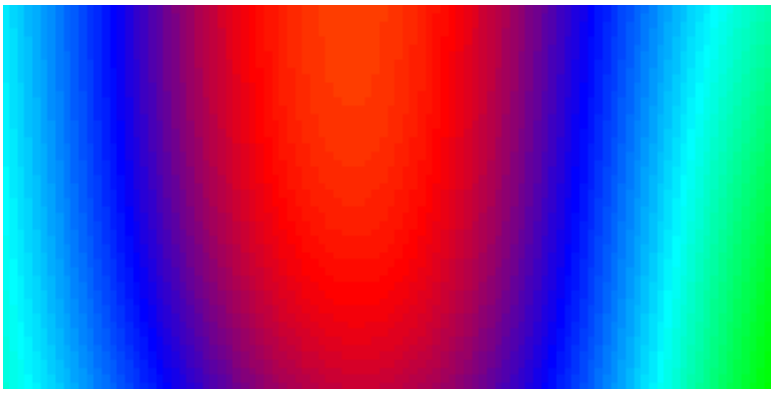
With this arrows you can define the direction from where the fire should start. Press the downwards arrow if you want a fire effect to come from top to bottom. Press the upwards arrow if you want a fire effect to come from bottom to top.

### 5.3.9 SCE Plasma

The SCE Plasma effect renders a random moving color gradient. As setup possibilities you have values for Red, Green, Blue and White.



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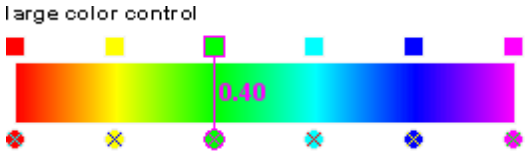
You can enter the values with the keyboard or easy with your mouse by clicking first on the color you want to change and next inside the small color control left from the color input fields.




If you want to move a color first click the color at the large color control hold the left mouse button and move the mouse left or right. One Click at the Delete area of the large color control removes the color. One Click inside the large color control adds a new color at this position.

Inside the input field **Bpm** you can enter the values for the speed of the Plasma effect. Small values result in slow and large values in a fast, movement.

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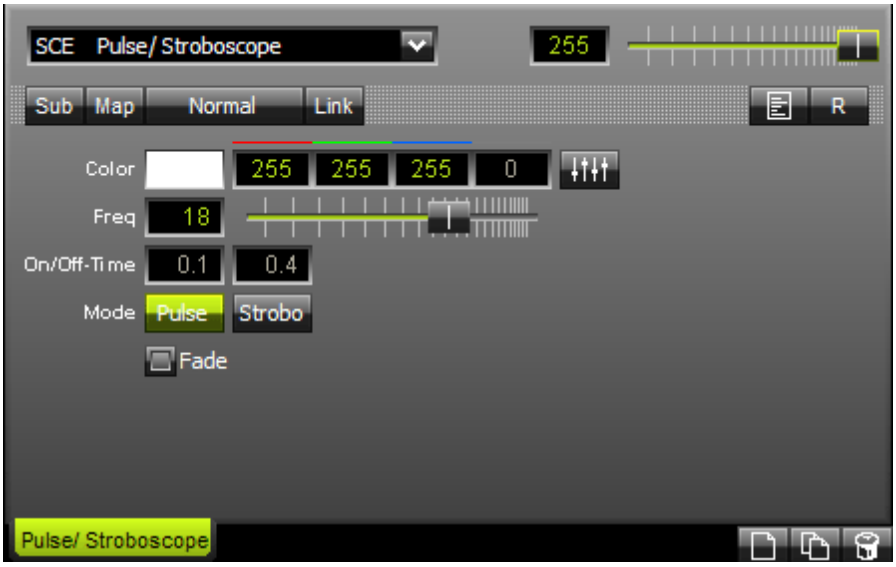
### 5.3.10 SCE Pulse / Stroboscope




The SCE Pulse/ Stroboscope renders a stroboscope or pulsing effect.

Use this effect to produce regular flashes. Strobe lights are often used in nightclubs and raves, and are available for home use for special effects or entertainment.

You can set the frequency in which the pulse/ stroboscope effect should be run inside the input **Freq.** The allowed values are from 1 – 25. If you want to create a slow effect move the fader to the far left or enter a small numerical value. Moving the fader to the right will increase the frequency and the pulse/ stroboscope effect.

Activate **Fade** if you want a smooth fade for the SCE Pulse/ Stroboscope effect.

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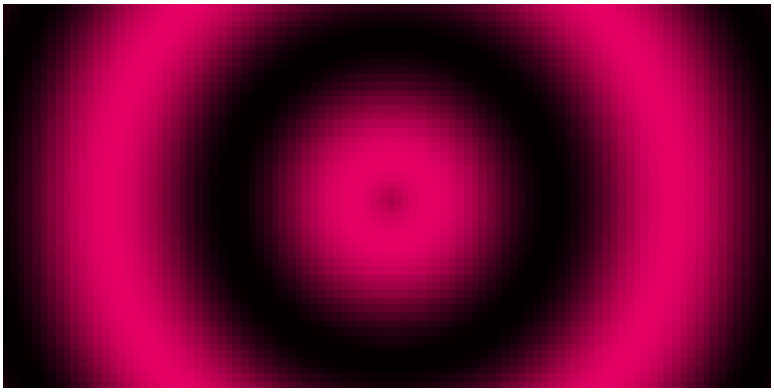
### 5.3.11 SCE Radial

The SCE Radial effect renders radial moving colors.



As setup possibilities you have values for Red, Green, Blue and White. You can enter the values with the keyboard or easy with your mouse.

Inside the input field **Bpm** you can enter the speed of the radial effect. Small values result in slow and large values in a fast movement. Inside the input field **Length** you define the length of one moving color. With **Center** you can define the center point of this effect. Type in the **X and Y coordinates** for the center point.

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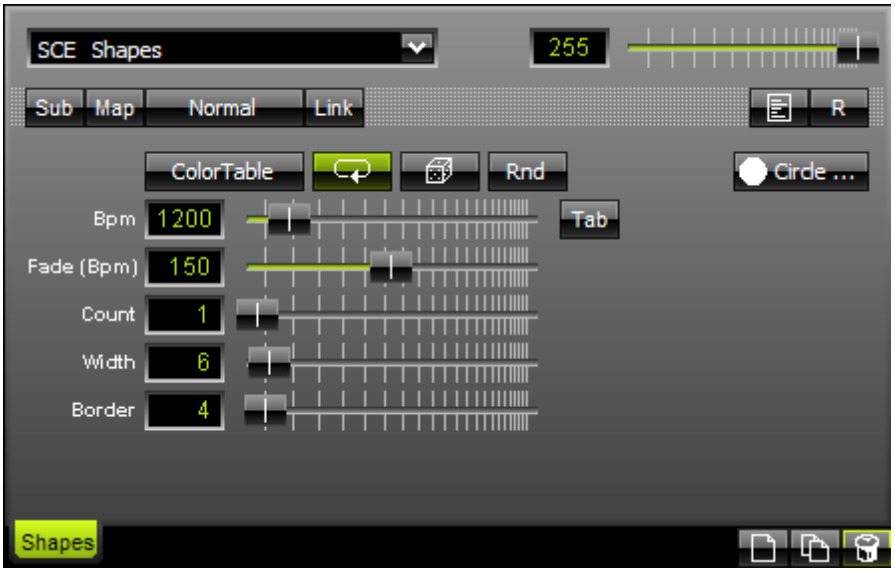
These **three mode buttons** are for the mode of the radial effect. Activate the first Circle button for circle radial effect. Activate the second button for radar effect. Click the third button for a helix effect.

With the sinus **buttons** you can define the color mode. (One color or multi color mode.) With the direction buttons you can define the moving direction. Additionally you will find two moving mode buttons for the moving mode for the inside out or outside in mode.

### 5.3.12 SCE Shapes

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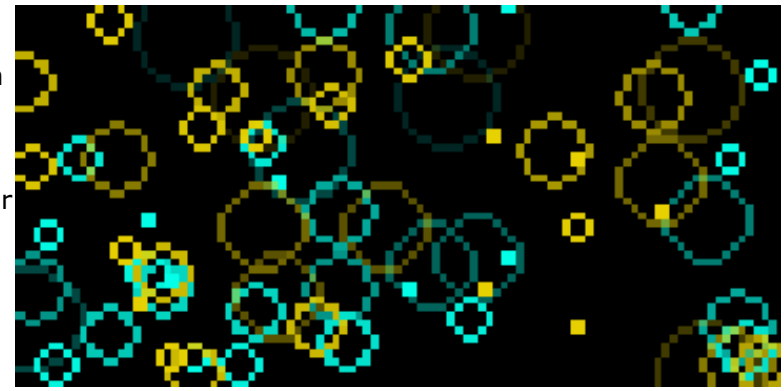
The SCE Shapes effect renders randomly shapes with different shape types in a color you have selected.



There are different modes for the colors, BPM, Fade times, Count, Width, Border and different shape types.

Within this effect, is a special function for manual BPM input included. If you want to have a synchronous effect to the beat of the music or you want to set up the speed of this effect, press the Tab button.

Press this button at least four times in a row in the beat of the music (1/4 notes) e.g. with your mouse. MADRIX automatically calculates the BPM values.

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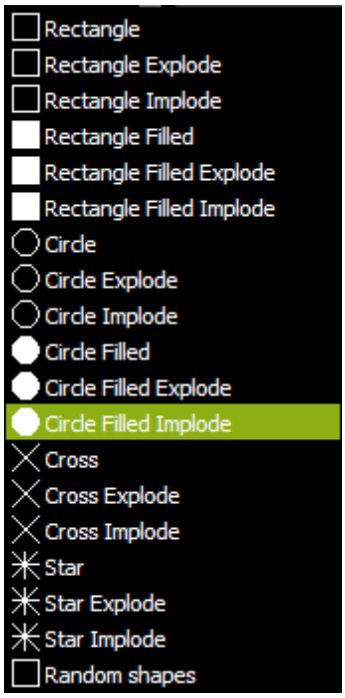


These are the possible modes for this effect. You have to play with the parameter BPM, Fade, Count, Width and Border to check the possibilities you have with this effect. Be creative and try to combine this effect by using layers and different mix modes.

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### 5.3.13 SCE Ticker / Scrolling Text

With the SCE Ticker effect you can write text messages. Inside this window you can determine a color in which the text should be displayed.

As set up possibilities you have the **color values**. The value from 0 to 255 can be entered directly into the input fields. With the help of the fader box you can also choose the color with your mouse.

With **Bpm** you set up the speed in which the ticker is being displayed and updated. If you would like to have slow movements (updates) move the fader to the left, or put in low numerical values. The numerical values have to be in the range from 0 to 9999 Bpm. If you move the fader to the right, the update speed increases and the ticker becomes faster.

If you activate **Smooth** switch the movement of the Text will be very smooth. We suggest using this feature only if you have many pixels in x and y.

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You can enter your text into the **text field**. The **Offset** area is used to set the position of the text for the X-axis and the Y-axis. The left input field is for the X-axis and the right input field is for the Y-axis. With positive values for the X-axis you achieve a movement of the text to the right. Negative values move the text to the left. With positive values on the Y-axis you achieve a movement of the text downwards, with negative values upwards.

Choose the desired **typeface** by pressing the font button. In Microsoft® operating systems, optimal fonts are already integrated. Load e.g. the font ”Small Fonts” and adjust the type size.

> **Attention:** The color, which you can set up inside this dialog, is going to be ignored by MADRIX!

Activate **reverse word**, if you want to display the text in reverse. Activate **reverse sentence**, when wanting to change the word order in a sentence. The last word of the sentence is going to be the first one in the output.

The buttons **(S)**, **(W)** and **(C)** stand for sentence, word and character. Activate the sentence button (S) when you want to interpret the text as Sentence. Activate the word button (W) when you want to have the text interpreted in the single words. Activate the character button (C), when the text should be displayed in single characters. The differences will be e.g. visible when scrolling the text from top to bottom or reverse.

With the **arrows** you can define the direction from where the text should start. Press the downwards arrow, if you want the text to run from top to bottom. For a text, running from bottom to top, press the upwards arrow. The square in the middle holds the text at the position.

## Typefaces

Typefaces can be divided into two main categories: serif and sans-serif. Serifs comprise the small features at the end of strokes within letters.

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AaBbCc

Sans-Serif font

AaBbCc

Serif font

### 5.3.14 SCE Video

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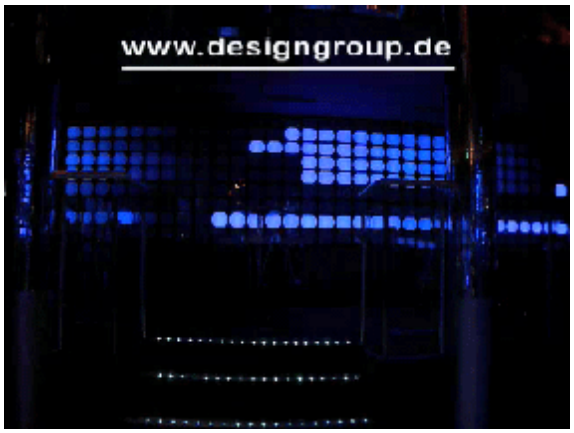
With the SCE video effect you can **play videos** or **grab a video signal** with a WebCam. Click on **Open to load a video.**

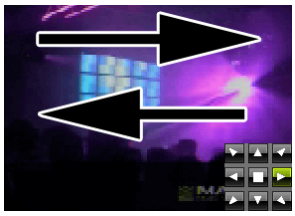



All video codec's that are installed on your computer are being supported.

If you have e.g. a webcam and this device is installed you can use this video signal in this effect. Click at **Capture** and choose your **video capture device**. Supported devices are e.g. a webcam, tv-card ...

With **Speed** you can define the play speed of the loaded video. Move the fader to the left to slow down and move the fader to the right to speed up the video.

**If you open a video and you can't change / modify the Speed value this feature is not supported by the loaded video codec!**



With **Bpm** you can define the speed of the movement of a loaded video. This value and fader is only for moving videos horizontal, vertical etc. Move the fader to the left to slow down and move the fader to the right to speed up the movement.

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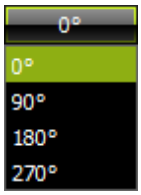
You also find information about the status of the integrated video player and the loaded video. You have **endless repetitions** if you click on **Loop** button. **Autostart** (AS) is starting the video automatically after the loading process, or even in the pause modus when changing the storage space. With the Play-Pause button you can pause or restart the video.

With the **direction arrows** you decide which way the video should be moved. The speed of the movement of the video can be controlled with Scroll Speed. If you want to display the loaded video in gray scale mode activate Grayscale. By marking Stretch the loaded video will be automatically adjusted to your matrix size. The switch Tile is for tiling the loaded video on the matrix size.




With the help of the rotation function you can rotate video and live video signals by 90°, 180° and 270°.

With the help of the **matrix, original, 4:3 or 16:9 mode** you can set additionally to the Stretch mode the correct display mode for your loaded video. If you want to play a 16:9 video activate 16:9 if you have a 4:3 video activate the 4:3 mode.

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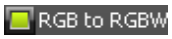
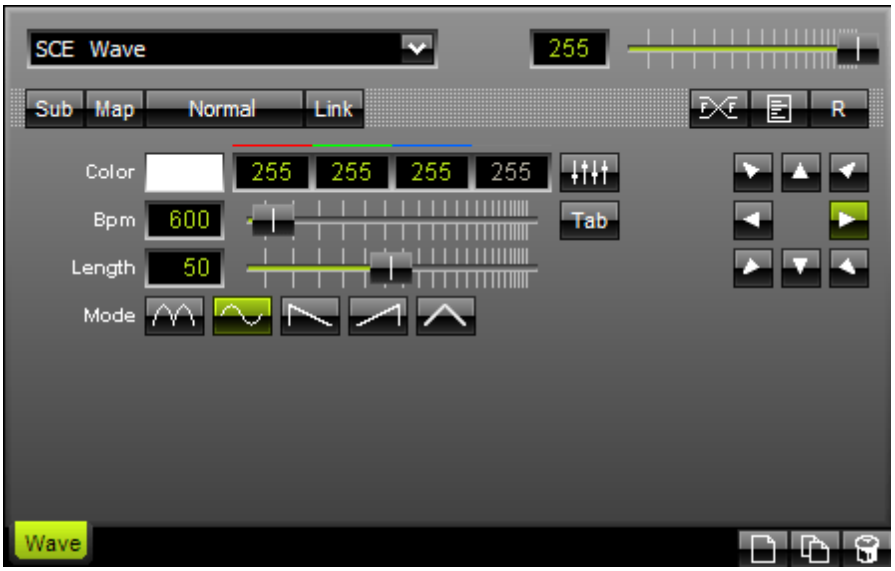



If you have a RGBW installation and you want to use the white channel you must activate the mode **RGB to RGBW**. Television screens and computer displays work with pixels (picture element) red, green, and blue (RGB). Also the computer video files are saved in RGB mode. MADRIX has a integrated color space conversion from RGB to RGBW in this effect.

## Codec problems - Install K-LITE Codec Pack.

Please install the "K-Lite Codec Pack" if you are have Windows XP or Windows Vista. K-Lite Codec Pack is a collection of VFW/ACM codecs, DirectShow filters and tools. Codecs and DirectShow filters are needed for encoding and decoding (playing) audio and video formats. The K-Lite Codec Pack is designed as a user-friendly solution for playing all your movie files.

### 5.3.15 SCE Wave

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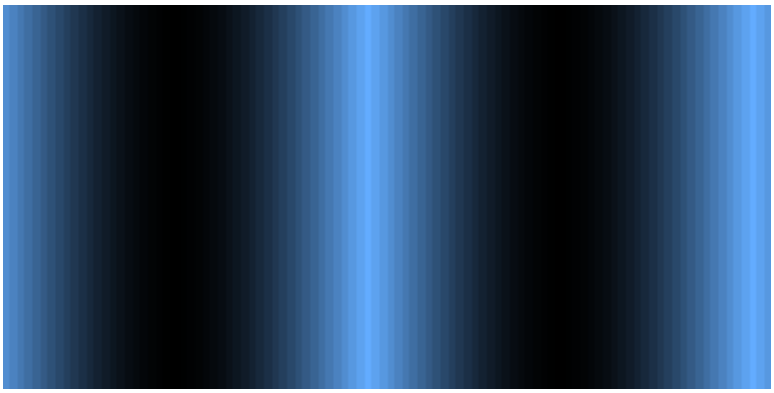
With the SCE Wave effect you will have a moving color wave. You can set the color.



With **Bpm** you set up the speed in which the wave is being displayed and updated.

If you would like to have slow movements (updates) move the fader to the left, or put in low numerical values.

If you move the fade to the right, the up-date speed increases and the waves gets faster.

**Length** sets the wave's length. You can use the **Mode** buttons for different wave modes. With the arrow buttons you can determine from which direction the wave should come.

## 5.4 Sound2Light Effects (S2L)

Sound2Light Effects needs an audio signal to generate synchronous light effects to the music. You have to start the MADRIX audio analyzes by pressing the Audio button at the desk to generate effects synchronous to the music.

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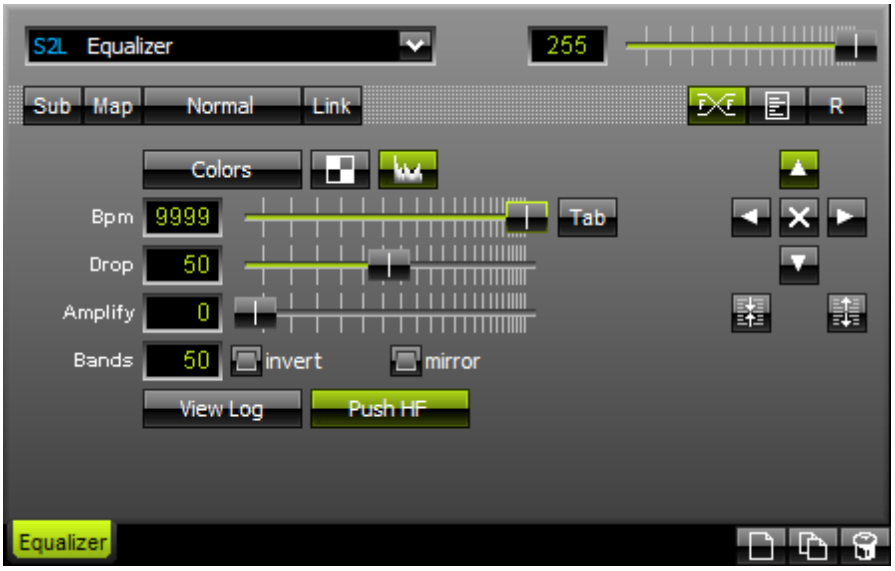
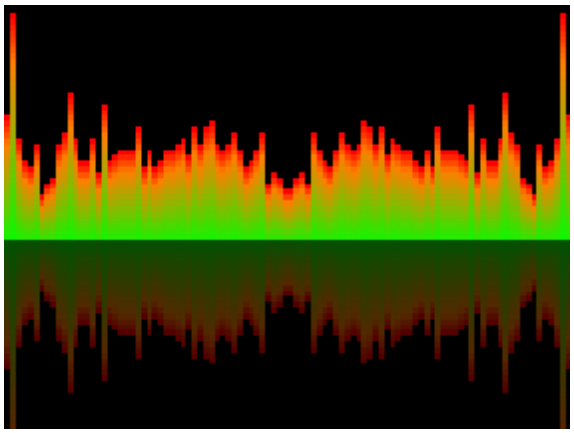
### 5.4.1 S2L Equalizer



The S2L Equalizer provides a **real time equalization and visualization of the audio signal**.

**Deep tones** will be displayed by default **left** and **high tones right**. As setup possibilities you have, e.g. colors. For setting up the colors simply press the Colors button.

With the **Bpm** (Speed) function you can set up the speed of the equalizer.

If you want **fast updates** move the **Bpm fader** to the **right**, or put in high numerical values. If you want **slow updates** move the **Bpm fader** to the **left**, or put in low numerical values.

You can use the **amplify** function as a visual amplifier for the audio signal. If you use Amplify, the single values will be intensively displayed. You get a stronger level. The more you move the fader to the right, the stronger will be the visual amplification of the single signals.

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You can use the **Bands** input field or slider to define the amount of bands you want to display. The **maximum** value for **Bands** is **511.** That means you have a 511 band equalizer effect. With Drop you can define the speed

You can define the colors for the equalizer by clicking at the **Colors** button. By activating the button **monochrome** the equalizer will be displayed in white color. If you activate the **band mode** button you get a gradient per band of the selected colors.

With the **View Log** button you switch to a logarithmic graphic of the signals. With **Push HF** (push higher frequency) you can modify the height of the higher tones. Depending on the kind of music, as well as the volume of the music, we suggest just trying what fits best. In bands area you can set the number of the bands for the equalizer.

With the **direction arrows** you can define the direction from where the equalizer should start. Press the downwards arrow, if you want a equalizer to run from top to bottom. For a equalizer, running from bottom to top, press the upwards arrow.

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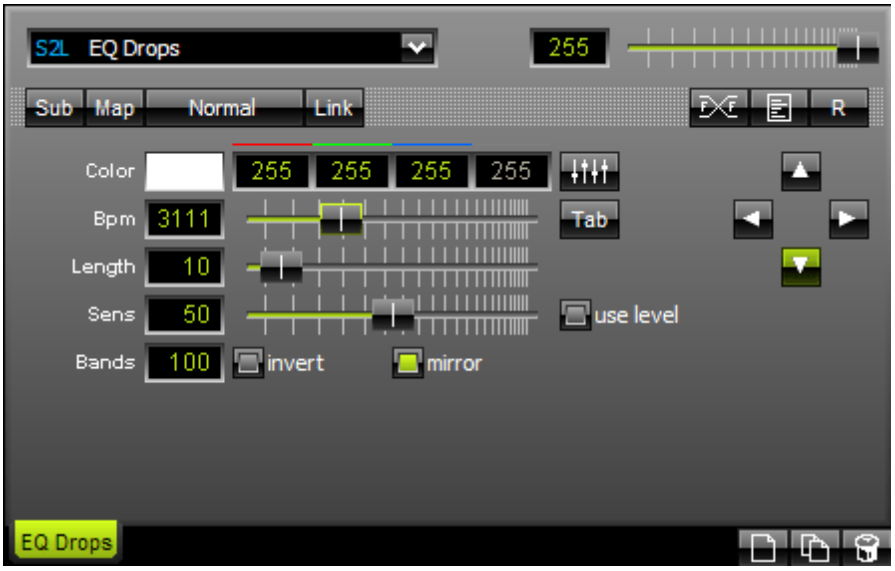
## 5.4.2 S2L EQ Drops




The S2L EQ Drops renders **equalizer drops synchronous to the music.**

As setup possibilities you have the Color values for the drop colors. The values can be entered with the keyboard or easy with your mouse.

With **Bpm** you can set up the speed in which the drop is being displayed and updated. If you would like to have slow movements (updates) move the fader to the left, or put in low numerical values. The numerical values have to be from 1 – 9999. If you move the fade to the right, the up-date speed increases and the drops go faster.

**Length** sets the drop length. Move the fader to the right, the drops will be longer. The numerical values for Length have to be in the area from 1 – 100.

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**Bands** defines how many equalizer bands will be displayed. If you have a matrix size eg. 50 x 50 pixels you can have a maximum of 50 band equalizer. With invert you can invert the display of the equalizer and with mirror you can mirror the display.

**Sens** is the sensitivity of the audio analyses. It works like an audio filter. The more you move the fader to the right, the less drops will be displayed. The sensitivity will increase and only the most important analyze data will be used. The numerical values for Sens have to be in the area from 0 – 100.

With the direction arrows you can determine the direction from where the drops should come. Press the downwards arrow and you will have falling drops. You can have drops from the bottom to the top, if you press the upwards arrow. In both causes the deep tones are on the left and the high tones on the right.

If you have activated use level this effect represents the level of the music and MADRIX puts out the Color that has been selected by you, when a certain level in the music has been reached. If use level is activated you can't adjust the Lenght because the Lenght of the drops is now represented by the level of the music.

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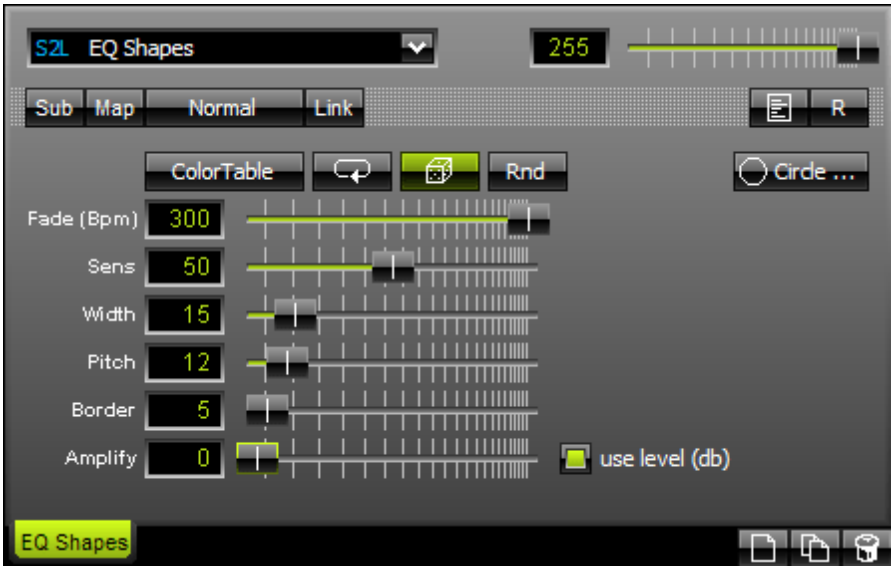
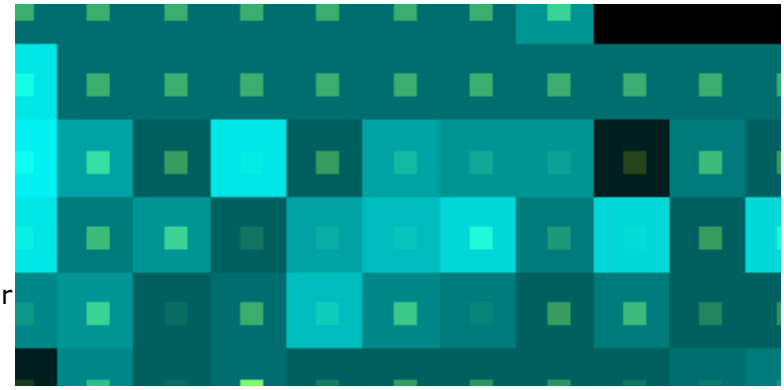
### 5.4.3 S2L EQ Shapes




The S2L EQ Shapes provides a real time equalization of the audio signal. By default the deep tones will be displayed at the bottom and the high tones at the top.



There are different modes for the colors, BPM, Fade times, Count, Width, border and different shape types.

If you want to have a synchronous effect to the beat of the music or you want to set up the speed of this effect, change the Fader or the value of **Fade (Bpm)**. For fast movements (updates) move the fader to the right, or put in high numerical values. For slow movements (updates) move the fader to the left, or put in low numerical values.

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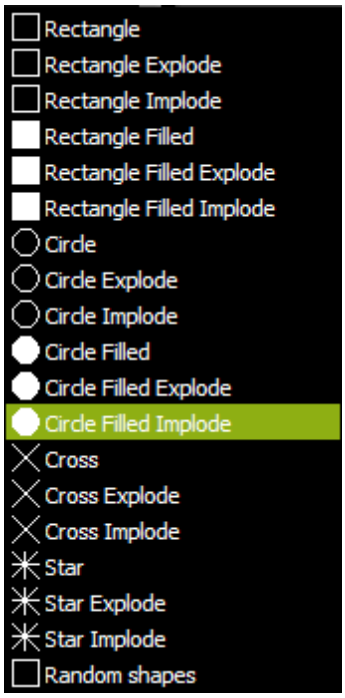


These are the possible modes for this effect.

You have to play with the parameter BPM, Fade, Count, Width and Border to check the possibilities you have with this effect. Be creative and try to combine this effect by using layers and different mix modes.

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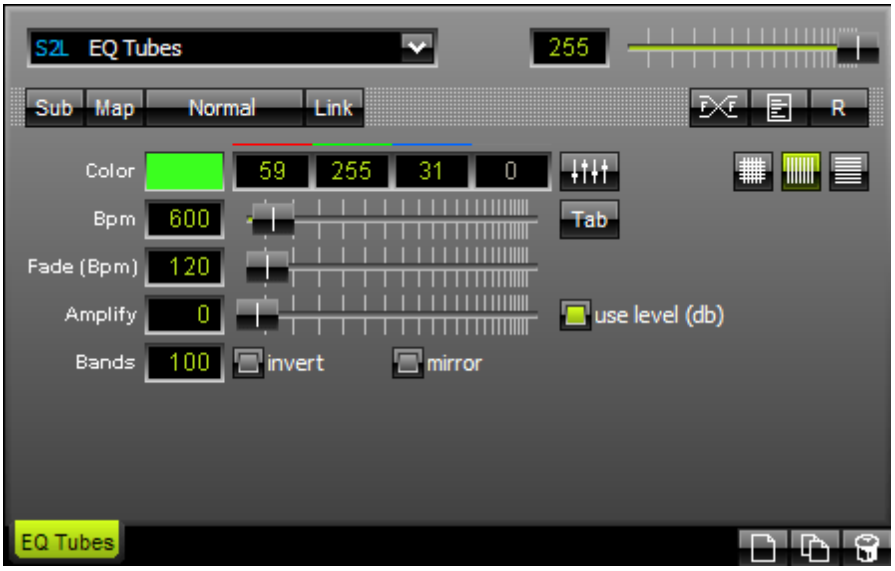
### 5.4.4 S2L EQ Tubes




The S2L EQ Tubes renders an effect like an equalizer displayed as horizontal or vertical lines.

As setup possibilities you have the color values for the line color. The values can be entered directly through the keyboard or simply through the fader box with the mouse.

With **Bpm** you set the speed in which the line is being displayed and up dated. If you would like to have slow movements (updates) move the fader to the left, or put in low numerical values. The numerical values have to be in the span from 1 – 9999. If you move the fade to the right, the up-date speed increases and the column become faster.

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**Fade** determines the fade-out time of lines. The more you move the fader to the right, the longer will the fade-out time be. The numerical values for the fade-out time have to be in the area from 1 – 100.

With these two buttons you can decide if the lines should be displayed in a horizontal or vertical order.

With this button you can decide if the lines should be displayed crossed or not. If you activate the cross button you will see vertical and horizontal lines.

You can use the **amplify** function as a visual amplifier for the audio signals. If you use Amplify, the single values will be intensively displayed. You will get a stronger level. The more you move the fader to the right, the stronger will be the visual amplification of the single signals.

With **Bands** you can set up how many bands should be displayed. Activate Invert to display this effect inverted and Mirror enables a mirrored display.

If you have activated **use level** this effect represents the level of the music and MADRIX puts out the Color that has been selected by you, when a certain level in the music has been reached.

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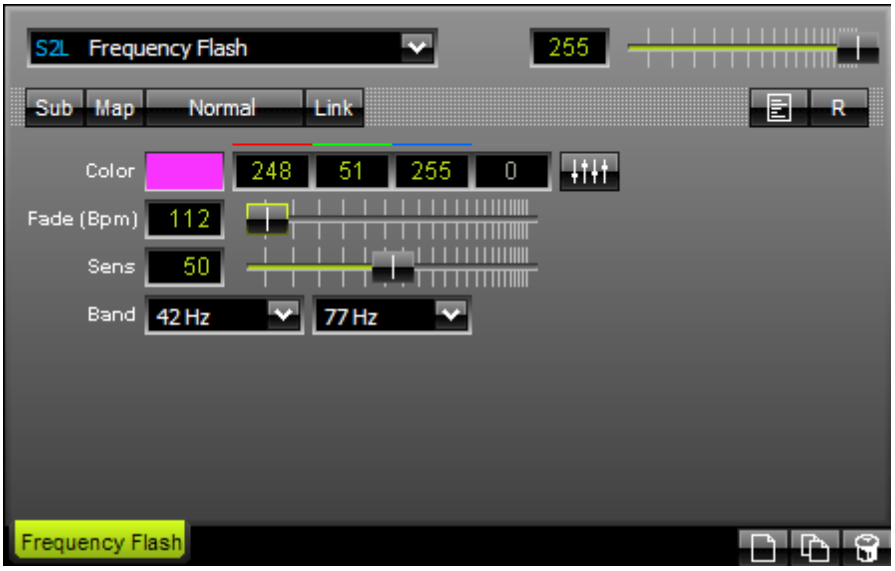
### 5.4.5 S2L Frequency Flash




With the SCE Frequency Flash you achieve a puls effect which is running synchronically to the audio frequency.

The effect puts out a color when a high level in between the selected frequency is being reached. After that the selected color is being dimmed with the **Fade (Bpm)** duration. When once again a high level is being reached the color is being set to 100%.

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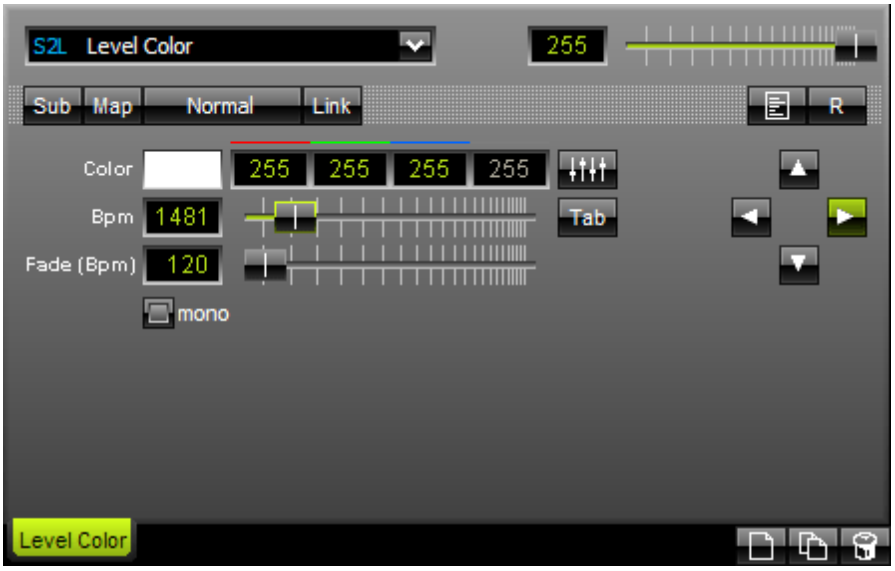
With **Band** you can set in which part (in Herz) should be looked. The left box represents From, the right one To. The example uses 8Hz to 102Hz. The bass area of the music (usually 8-135Hz) are good values for this effect.

**Sens** is the sensitiveness of the audio analysis. It works like an audio filter. The more you move the fader to the right, the less single tons are being displayed. The sensitiveness is being enlarged and only the most important analysis data are being used. The numerical values for Sens have to be between 0 …100.

### 5.4.6 S2L Level Color

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The S2L Level Color Effect refers to the level of the music and renders the color when a certain level in the music has been reached.

After that the color is being dimmed with the Fade duration that has been set. Is a high level reached the color is being set the 100%.

With **Bpm** you can determine how close the audio analysis is to the music. Higher values for techno music, and classical music prefers lower values.

If you activate the **mono switch** you will have an audio analyze in mono with only 1 audio channel.

With the direction arrows you can define the direction from where the effect should start. Press the downwards arrow, if you want a effect running from top to bottom. For an effect, running from bottom to top, press the upwards arrow.

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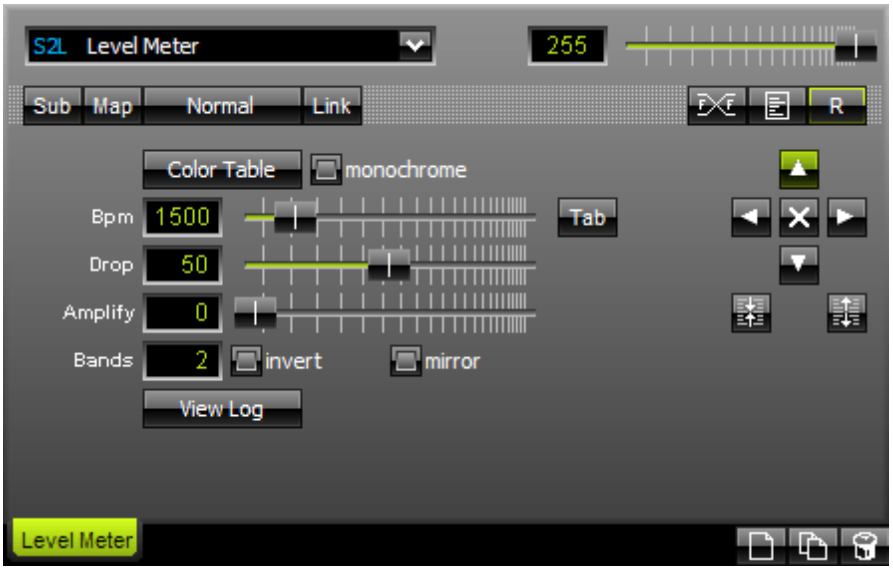
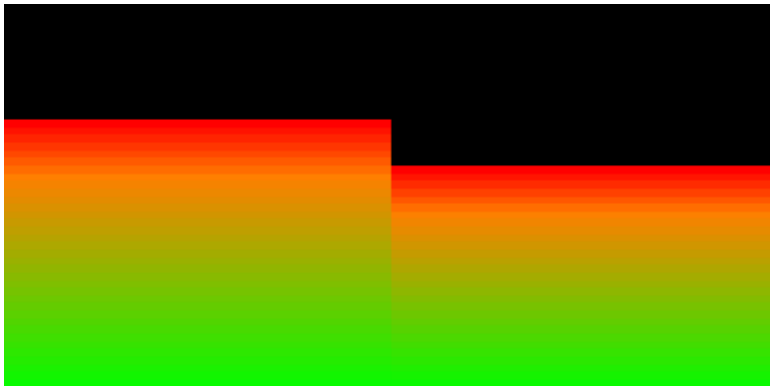
### 5.4.7 S2L Level Meter




The S2L Level Meter refers to the stereo level of the music and renders by default a two band level.



The left audio channel will be displayed left and the right audio channel will be displayed right.

As set up possibilities you have, e.g. colors. For setting up the colors simply press the **Color Table** button. With the **Bpm** function you can set up the speed of the effect. If you would like to have slow movements (updates) move the fader to the left, or put in low numerical values. If you move the fade to the right, the up-date speed increases and the effect will go faster.

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You can use the **amplify** function as a visual amplifier for the audio signals. If you use Amplify, the single values will be intensively displayed. You will get a stronger level. The more you move the fader to the right, the stronger will the visual amplification of the signals be.

With the **View Log** button you switch to a logarithmic graphic of the signals. Depending on the kind of music, as well as the volume of the music, we suggest just trying what fits best.

In **Bands** area you can set the number of the bands for this effect (maximum is 2 for left and right audio channel).

### 5.4.8 S2L Level Ring

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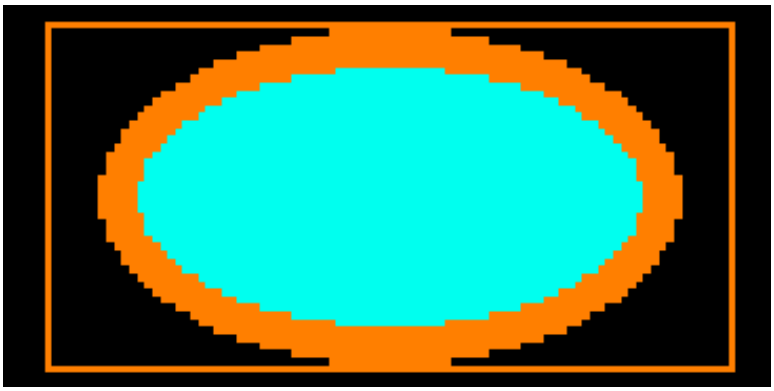
The S2L Level Ring refers to the stereo level of the music and renders the level of the music.

The left and right audio channel will be displayed as a deflection of the level ring form.



As set up possibilities you have, e.g. colors. For setting up the colors simply press the Color Table button.

With the **Bpm** function you can set up the speed of the equalizer. If you would like to have slow movements (updates) move the fader to the left, or put in low numerical values. The numerical values have to be from 1 – 50. If you move the fade to the right, the up-date speed increases and the equalizer will go faster.

You can use the **amplify** function as a visual amplifier for the audio signals. If you use Amplify, the single values will be intensively displayed. You will get a stronger level. The more you move the fader to the right, the stronger will the visual amplification of the single signals be. With the View Log button you switch to a logarithmic graphic of the signals.

Depending on the kind of music, as well as the volume of the music, we suggest just playing with the values.

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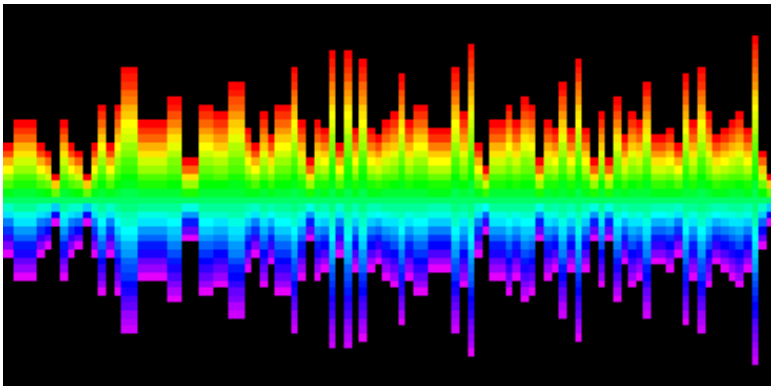
### 5.4.9 S2L Waveform

The S2L Waveform refers to the stereo or mono level of the music and renders a moving colored graph.



As setup possibilities you have e.g. the **color values** for the graph color. The values can be entered directly through the keyboard or simply with the mouse.

If you would like to have slow movements (updates) move the fader of the **Timeslot** to the right, or put in high numerical values. The numerical values have to be from 0.01 – 10. If you move the fade to the right, the up-date speed decreases and the effect will run slower.

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This control allows you to set up the audio analysis mode. You can select between **stereo, mono, left and right audio channel.** If you select stereo you will see two graphs if you select mono, left or right you see only one graph.

With the direction arrows you can define the direction from where the effect should start. Press the downwards arrow, if you want a effect running from top to down. For an effect, running from down to top, press the upwards arrow.

These two mode buttons allows you to control the direction of the waveform from the middle to outside or outside to middle.

Depending on the kind of music, as well as the volume of the music, we suggest just playing with the values.

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### 5.4.10 S2L Wavegraph

The S2L Wavegraph refers to the stereo or mono level of the music and renders a moving graph.

As setup possibilities you have e.g. the **color values** for the graph color. The values can be entered directly through the keyboard or simply with the mouse.

If you would like to have slow movements (updates) move the fader of the **Timeslot** to the right, or put in high numerical values. The numerical values have to be from 0.001 – 1. If you move the fade to the right, the up-date speed decreases and the effect will run slower.

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This control allows you to set up the audio analysis mode. You can select between **stereo, mono, left and right audio channel**. If you select stereo you will see two graphs if you select mono, left or right you see only one graph.

With the direction arrows you can define the direction from where the effect should start. Press the downwards arrow, if you want a effect running from top to down. For an effect, running from down to top, press the upwards arrow.

These two mode buttons allows you to control the direction of the graph from the middle to outside or outside to middle.

Depending on the kind of music, as well as the volume of the music, we suggest just playing with the values.

## 5.5 Music2Light Effects (M2L)

As special highlight, MADRIX offers you Music2Light effects. **The music is being analyzed after tone theoretical parameters.** MADRIX analyze the height of tones and volume, single tones, intervals, keys and tonalities.

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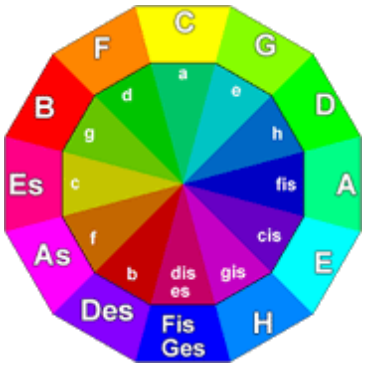


The **music** is being **analyzed in real time** by the MADRIX music analysis. With the analysis of the tonality connections, the software relies on the ”Instructions in level of sound” by Paul Hindemith. Paul Hindemith (16 November 1895 – 28 December 1963) was a German composer, violinist, teacher, theorist and conductor. He established the theoretical principals of the level of sound in modern music.

## MADRIX offers the following possibilities

- **Moment analysis** – the currently played music (point of time now) is being analyzed

- **Time analysis** – the tone theoretical parameter are being observed over a certain period of time and statically appraised. E.g.: The key is being displayed, that was dominant during the last second, or intervals are being displayed, which were re accepting during the half second.

## MADRIX offers the following technique for tone analysis

- Basic tone analyses (Tonality)

- Scale analyses to the accepted tonality (Major, Minor)

- Analyses of intervals relatively to the accepted tonality

- Analyses of the absolute interval (distances of neighboring tones)

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- Single tones
- Number of single tones (max. 128)
- Volume of single tones

### 5.5.1 M2L Color Fade

This Music2Light Color Fade effect offers the suitable light mood to the music.

The MADRIX music analyses work in this effect according to the following criterias: **existing keys and tonalities.**

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As set up possibilities you have the color value for base color. The values from 0 to 255 can be entered directly into the input fields. With the help of the fader box button you can set up the colors with your mouse.

After pressing the button M2L Colors a window is being opened. Inside it you can match the colors with the single keys. All existing keys will be displayed in the window.

In the **left part** of the window you can see the **major keys**, in the **right part** all **minor** keys. The big C in the left part represents C-major and has as color value a pure yellow (RGB: 255, 255, 0). C-minor on the other side in situated on the right next to C-major and has a darker yellow as color value (RGB: 153, 153, 0).

With the load button (L) you can load color tables and with the save button (S) save your adjustments. The buttons (C1), (C2), (R), (G), (B) are presets for color settings. The close button closes the window.

**Conclusion:**
In this effect, you decide which color is assigned to which key.

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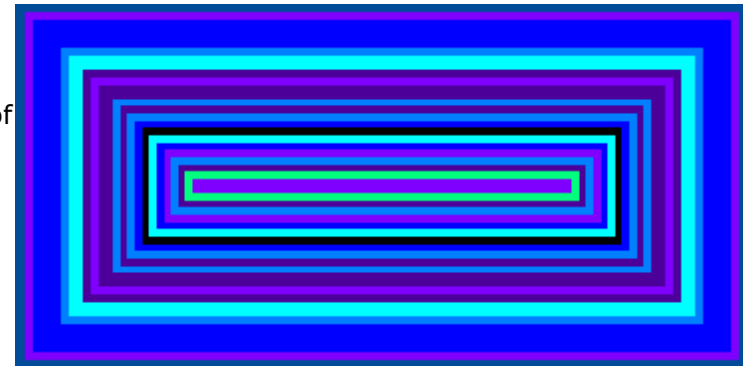
### 5.5.2 M2L Color Rings

The Music2Light Color Ring effect delivers you the matching gradients synchronous to the music, in form of rings.



The music analyses work with the following criteria in this effect:
**existing tones and tonalities**

As set up possibilities you have the color values for the base color. The value from 0 to 255 can be entered. With the help of the fader box you can also enter the colors with your mouse.

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After pressing the M2L Colors button a new window will be opened. In here you can match a color with the single tones. All existing tones will be displayed in this window

In the **left part** of the window you see all **major keys**, in the **right part** all **minor keys**. The big C in the left part represents C-major and has as color value a pure yellow (RGB: 255, 255, 0). C-minor on the other side in situated on the right next to C-major and has a darker yellow as color value (RGB: 153, 153, 0).

With the load button (L) you can load color tables and with the save button (S) save your adjustments. The buttons (C1), (C2), (R), (G), (B) are presets for color settings. For closing the window, press close.

With **Bpm** you set the speed in which the effect is being displayed. If you would like to have slow movements (updates) move the fader to the left, or put in low numerical values. If you move the fade to the right, the up-date speed increases and the effect becomes faster.

**Conclusion:** You decide which colors will be matched with which tones.

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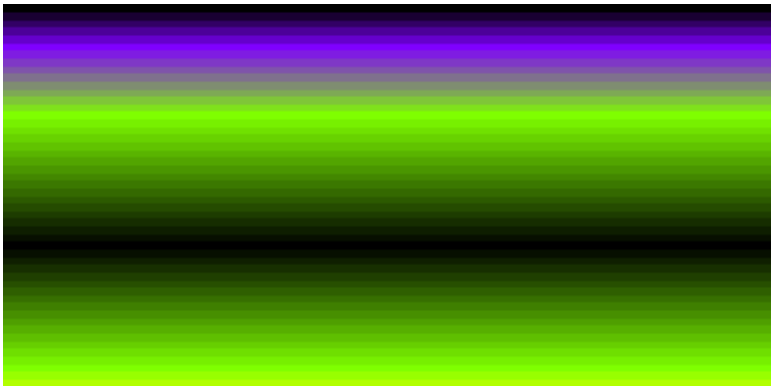
### 5.5.3 M2L Color Scroll

The Music2Light Color Scroll effect offers you a moving color gradient synchronous to the music.



The MADRIX music analyses work in this effect according to the following criteria: **existing keys and tonalities.**

As set up possibilities you have the color values for the base color and for the color of the colored lines. The value from 0 to 255 can be entered directly. With the help of the fader box you can also enter the colors with your mouse.

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After pressing the M2L Colors button a new window will be opened. In here you can match a color with the single tones. All existing tones will be displayed in this window.

In the **left part** of the window you can see all **major keys**, in the **right part** all **minor** keys. The big C in the left part represents C-major and has as color value a pure yellow (RGB: 255, 255, 0). C-minor on the other side in situated on the right next to C-major and has a darker yellow as color value (RGB: 153, 153, 0).

With the load button (L) you can load color tables and with the save button (S) save your adjustments. The buttons (C1), (C2), (R), (G), (B) are presets for color settings, which MADRIX offers. For closing the window, press close.

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With the arrows you can determine the direction from where the gradient should come. Press the downwards arrow if you want to have the gradient starting from the top. You can have the gradient from bottom to top, if you press the upwards arrow. The cross in the middle is used to create a flow in the counter direction. Activate the cross and insert a direction. The flow will start from the direction and is going to be displayed counter rotated. With those buttons you can define the direction of the effect, either from the outside in, or from the inside out.

With **Bpm** you set the speed in which the effect is being displayed. If you would like to have slow movements (updates) move the fader to the left, or put in low numerical values. If you move the fade to the right, the up-date speed increases and the effect becomes faster.

## Using the Tab Button for Manual BPM Input

Within this effect, a special function for Manual BPM Input is included. If you want to have a synchronous movement of colors to the beat of the music, press the Tab button. Press this button at least four times in a row in the beat of the music (1/4 notes) e.g. with your mouse. MADRIX automatically calculates the BPM values.

**Conclusion:**
In this effect you decide which tone is going to be matched with which color. The colors will be displayed with a gradient. If a tone is hold for a while, you will see the set color longer. With the Tab button you can set the speed of the gradient synchronous to the beat of the music.

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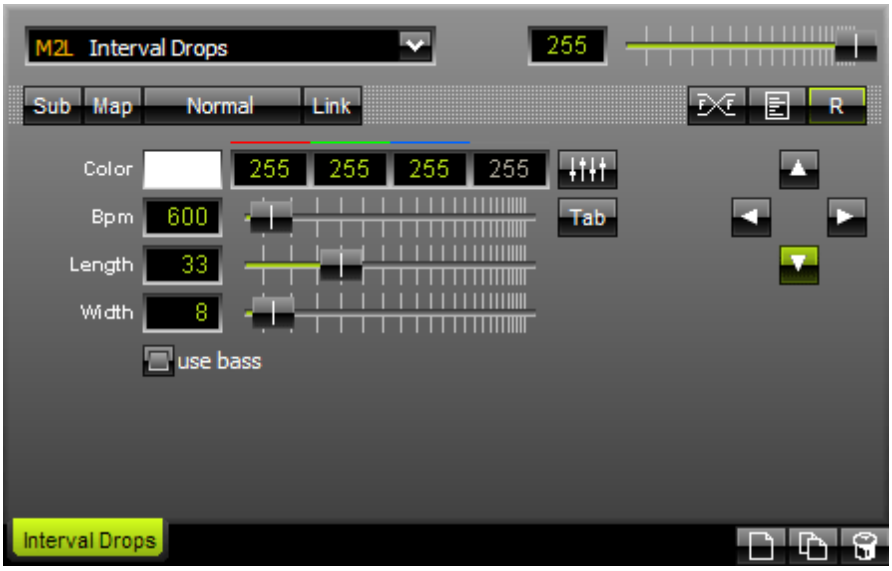
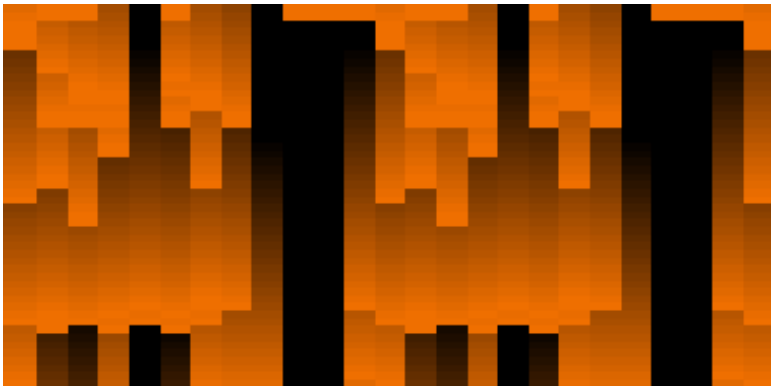
### 5.5.4 M2L Interval Drops




The Music2Light Interval Drops effect delivers you as result the intervals included in the music, in form of moving drops.



The MADRIX music analyses work with the following criteria in this effect: **included intervals**

As setup possibilities you have the color values for the drops color. The value from 0 to 255 can be entered. With the help of the fader box you can also enter the colors with your mouse.

With **Bpm** you set the speed in which the effect is being displayed. If you would like to have slow movements (updates) move the fader to the left, or put in low numerical values. If you move the fade to the right, the up-date speed increases and the effect becomes faster.

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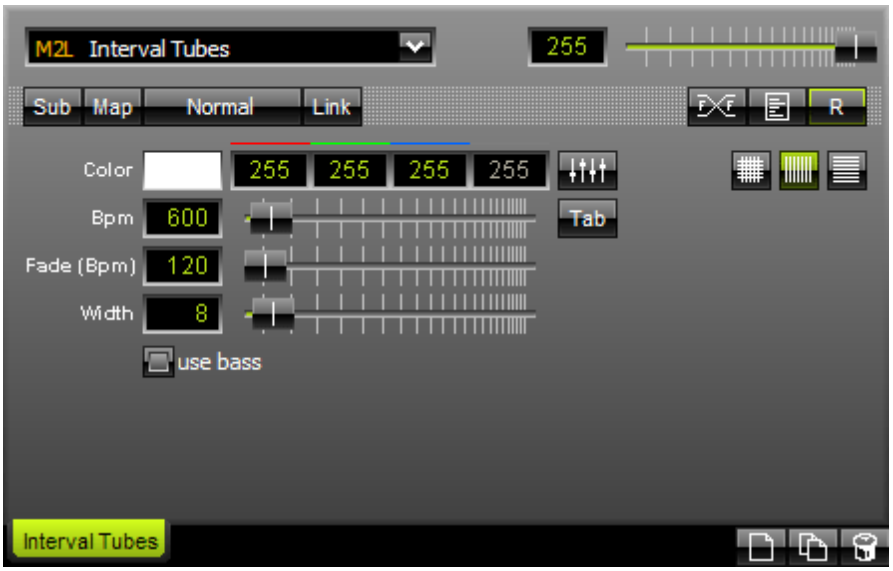
**Length** sets the drop length. The more you move the fader to the right, the longer will the drops be. The numerical values for Length have to be in the area from 1 – 100.

With the arrows you can determine the direction from where the drops should come. Press the downwards arrow and you will have falling drops. You can have drops from the bottom to the top, if you press the upwards arrow. In both causes the deep tones are on the left and the high tones on the right. One input number 1 corresponds to 1 pixel for one interval. Larger numbers mean larger pixel for every interval.

**Conclusion:**
As soon as one or more intervals are analyzed they will be displayed with the drops color.

### 5.5.5 M2L Interval Tubes

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The Music2Light interval tube effect delivers you the intervals included in the music, in form of tubes.

The music analyses work with the following criteria in this effect: **included intervals.**

As set up possibilities you have the color values for the color of the tubes. The value from 0 to 255 can be entered. With the help of the fader box you can also enter the colors with your mouse.

With **Bpm** you set the speed in which the effect is being displayed. If you would like to have slow movements (updates) move the fader to the left, or put in low numerical values. If you move the fade to the right, the up-date speed increases and the effect becomes faster.

**Fade** determines the fade-out time of tubes. The more you move the fader to the right, the longer will the fade-out time be. The numerical values for the fade-out time have to be in the area from 1 – 100.

**Width** determines the width of the tubes. One input number1 corresponds to 1 pixel for one tube. Larger numbers mean larger pixels for the tubes.

With those two buttons you decide if the tubes are displayed horizontal or vertical.

**Conclusion:**
As soon as one or more intervals are being analyzed, they will be displayed with the tube color set by you on the background color (base color).

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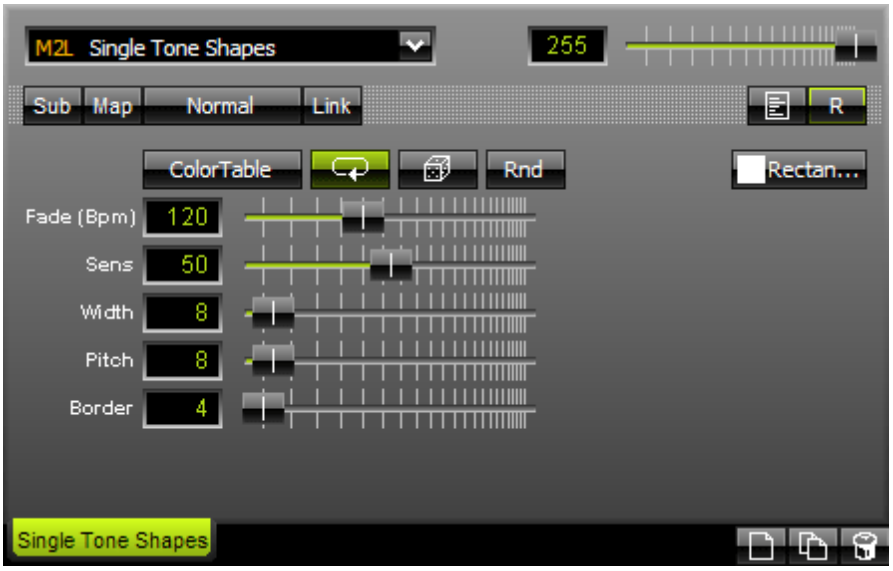
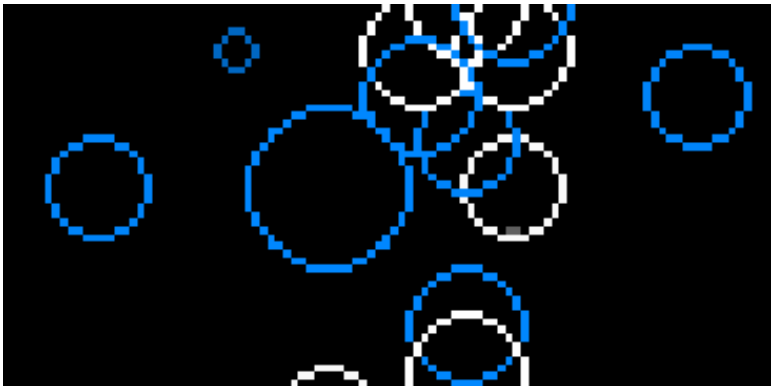
### 5.5.6 M2L Single Tone Shapes




The Music2Light single tone effect renders the single tones depending on the music.



The MADRIX music analyses work in this effect after the following criteria: **Number of single tones and tone pitch.**

As setup possibilities you have the color value for tones color. The values from 0 to 255 can be entered directly. With the help of the fader box button you can set up the colors with your mouse.

With **Fade (Bpm)** you set the speed in which the effect is being displayed. If you would like to have slow movements (updates) move the fader to the left, or put in low numerical values. If you move the fade to the right, the up-date speed increases and the effect becomes faster.

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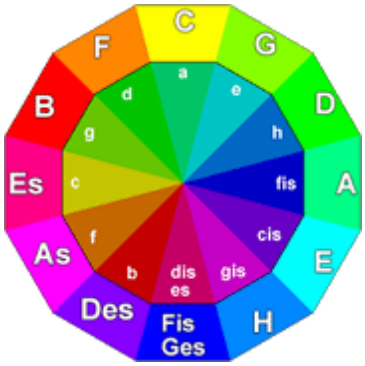
**Sens** is the sensitivity of the audio analyses. It works like an audio filter. The more you move the fader to the right, the fewer columns will be displayed. The sensitivity will increase and only the most important analyze data will be used. The numerical values for Sens have to be in the area from 0 – 100.

**Width** decides over the width of the points. One input number corresponds to 1 pixel for one single tone. Larger numbers mean larger pixel for single tones.

You find six buttons for setting up the mode of the effect.

**Conclusion:**
As soon as MADRIX has analyzed one or more tones from the music, they will be displayed with the tone color, chosen by you, on the background color (base color).

### 5.5.7 Standard Color Setups for M2L effects




For choosing the colors for the MADRIX Standard Color Setup, the **circle of fifths** from music education is being used. Starting with C, the circle of fifths describes a circle. The relationship of the keys is visible from the arrangement.

Neighboring keys are named parallel keys. The greater the distance between the two keys, the less related are these. To support this fact, complementary colors are being used.

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The **outer ring** of the circle of fiths describes the **major**, the **inner ring** the **minor** keys. While the colors describe the tonality, the brightness of the color is being expressed by the scale.

By assigning the color yellow to the tonality C and due to the fact that the colors are assembled clock wise, all other colors conclude. Fis gets the complementary color of yellow assigned (Blue).

The keys between C and Fis arise from the spectrum of colors between yellow and blue of the RGB-color model.

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# Part VI

# 6 Music2Light (M2L) and Sound2Light (S2L)

Before you start using Music2Light 126 and Sound2Light 108, please read the chapter installation of MADRIX carefully. The first steps are being explained in "Audio Input Configuration" 14.

### Why using a professional sound card?

For **best audio analysis** use a **professional soundcard.** The Creative SoundBlaster X-FI cards are the recommended sound cards for cost. Sound Blaster delivers award-winning X-Fi technology for faster and better sound quality. X-Fi 24-bit Crystalizer restores sparkle to low quality audio, upgrading MP3, DIVX and TV audio to 24-bit. Soundblaster X-Fi is ideal for MADRIX.

## 6.1 Audio input

With a sound card and the unique Music2Light real time effects, MADRIX forms a 100% syncronous light show. MADRIX analyzes the music in real time and plays live DMX shows. You can use the Real-Time Audio Analysis with any audio source - Audio-CD, Record Player, Tape, MP3, WMA, Microphone ... are supported.

### Start the MADRIX audio analysis

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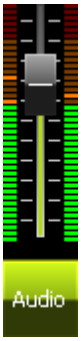
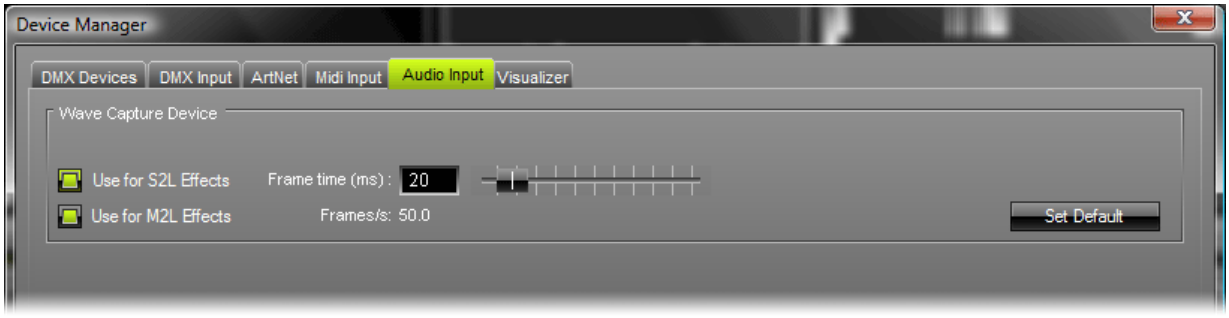



**To start the MADRIX audio analysis press the Audio button. The audio analysis is running if you see a colored button. Otherwise the audio analysis is stopped.**

This visualisation shows you the input level of your music. You can control the volume with the fader. Move the fader upwards if you want a higher audio input level. Move the fader downwards if you want a lower audio input level. To setup the optimal volume for the MADRIX audio analysis read the The optimal volume 144 pages.

Please check also the audio configuration inside the **Device Manager** tab **Audio Input.**




If you dont have any level, please check the Audio Input Configuration 14.

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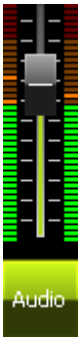
## 6.2 The optimal volume




To achieve maximum results with the MADRIX audio analysis, a optimal volume of the music is required. No matter if you play the music with the help of you hard disk, from an audio CD, the LineIn or with and MicIn input of your soundcard, please always setup the audio level before.

### Perfect level

You have a perfect level if the upper red LED's for the left and right channel light up at no time. A too low input signal is also bad for a perfect music analysis. Pay attention to the order while leveling: Please setup the level first with the Windows Mixer and next with MADRIX.

If you dont have any level, please check the Audio Input Configuration 14.

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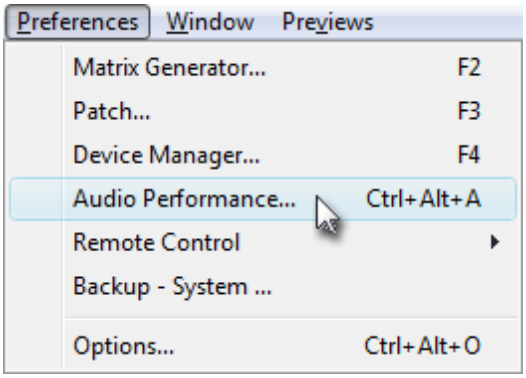
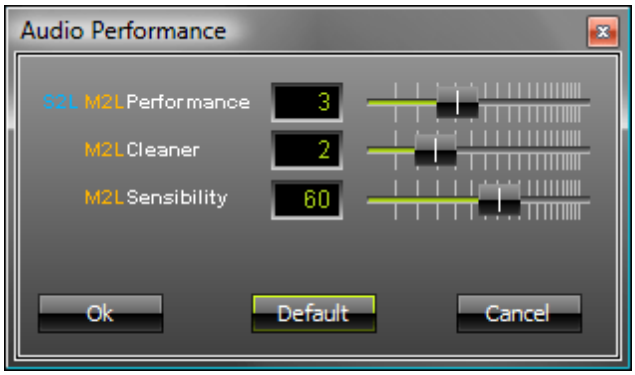
## 6.3 Performance




The **speed of your computer**, the **audio performance settings** and the **level of the audio signal** are **very important** for perfect results of the music analysis.

The fine tuning of your audio and computer performance can be arranged very simply: Please click inside the menue Preferences at the entry Audio Performance.




A new window is being opened. Inside the window you can enter the values of the music analysis. If you are using a computer, which has less then 1GHz please move the fader to the fare left. With computers with 2,4GHz or more you can pull the fader to the far right. The numerical values that you can enter in the input field can range from 1 to 6, or 0...7.

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If you put the **S2L M2L performance** to 6, you reach a maximum precision of the music analyze. Because of the high precision, a delay in displaying the effects is normal. You can realize a delay when a tone of music is being played, but displayed by MADRIX after a short while. If you think that the delay is too big, simply move the fader one step to the left.

With the **M2L Cleaner** you achieve a clean music analysis. Small numerical numbers correspond to a slight cleaning. With that also wrong results in the audio analysis are being shown. Move the fader to the right or put in high numerical values and you will see clean results.

With some effects in MADRIX, and with some types of music, it is sometimes useful to move the fader a little bit to the left, even if your PC is fast enough.

**A fast computer will deliver better audio analysis results than a slow computer. Please pay attention to the system requirements of MADRIX and to the processor load.**

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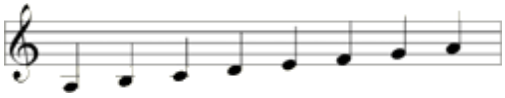
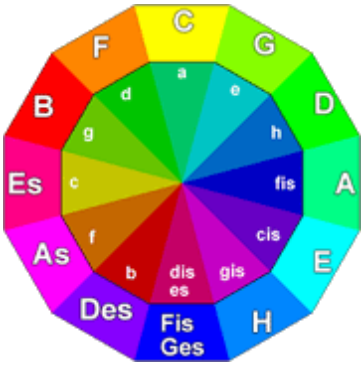
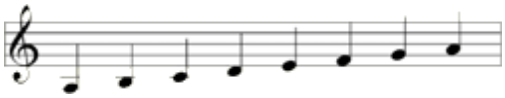
# Part VII

# 7 terms of music theory

MADRIX offers you Music2Light (M2L) effects. The music is being analyzed with tone theoretical parameters. MADRIX analyzes the height of tones and volume, single tones, intervals, keys and tonalities...




## 7.1 Single tones

**Tones are the basic elements of music.** With the term TONE, a single tone is named. You have to distinguish tones from sounds, which are set together from more then one tone. The basis of all tones is the, through a frequency, exactly defined sinus tone. An instrumental tone, e.g. from a violin, is a complicated mixture of the (playing and sounding) basic tone and a couple simultaneously sounding over tones, which among other things is responsible for the typical sound of the instrument.

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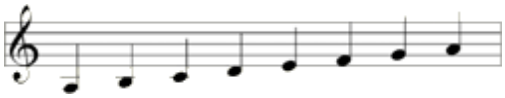
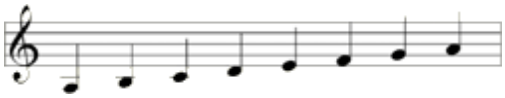
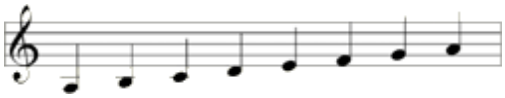
## 7.2 Tonality

For defining a certain tonality of a chord, all intervals have to be embraced. In most cases, the tonality of the chord is conforming to the basic tone of the strongest interval.

## 7.3 Scale

In music, the adjectives **major** and **minor** can describe a scale, key, chord, or interval. For intervals, the terms refer to a difference in their relative width, major referring to notes somewhat further apart; the other terms are classifications based on the use of certain intervals, especially the major or minor third.

Major and minor are frequently referred to the titles of compositions in their foreign language form, especially in reference to the key of a piece.

## 7.4 Key

A key is a hierarchy of tones (scale), which is based on a basic tone (tonic). Examples for keys: C-minor: minor-scale with the basic tone C (comprising the tones C, D, Es F, G, As, B, C), Fis-major: Major-scale with the basic tone Fis (comprising the tones Fis, Gis, Ais, H, Cis, Dis, Eis, Fis).

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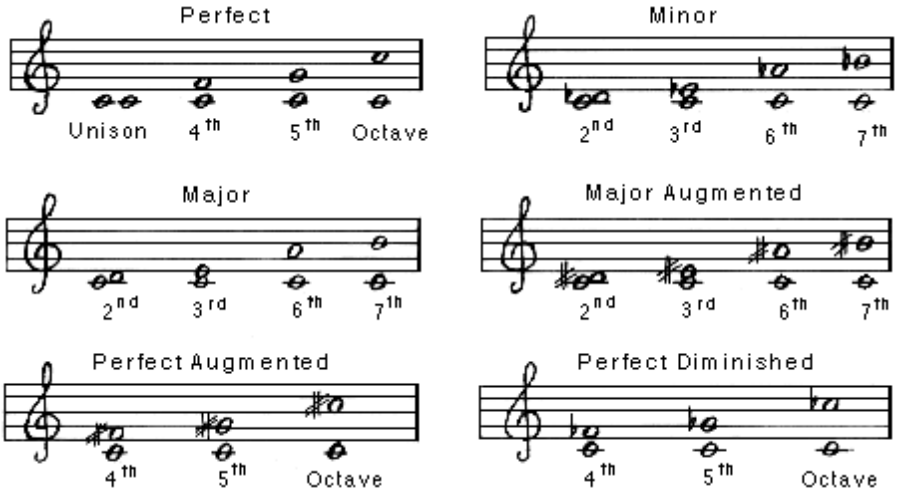
## 7.5 Intervals




In music theory, an interval is the relationship between two notes or pitches, the lower and higher members of the interval. It often refers to those two notes themselves (otherwise known as a dyad). Larger intervals are described as wide and smaller ones as narrow (for example, a sixth is wider than a third), but these are only relative terms.

To be able to define the tonality of a chord, it is necessary to verify the included intervals.

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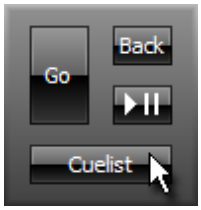
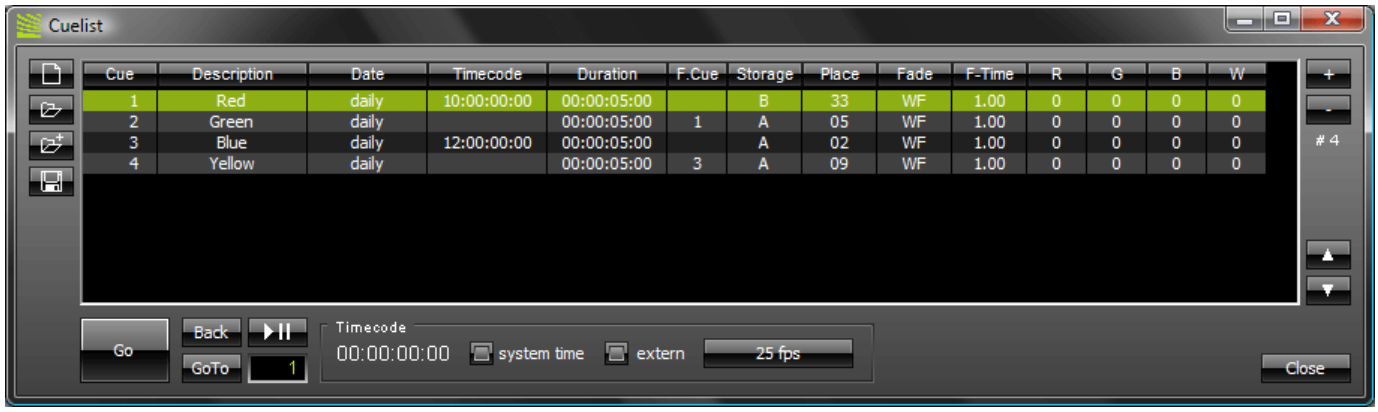
# Part VIII

# 8 cuelist




With MADRIX you can create a cuelist very simple and fast. To open the Cuelist click in the menue **Windows --> Cuelist**, or Press the keys **F7** or click at the MADRIX desk the **Cuelist** button. A new Cuelist window will be open.


Cuelist
Cue Description Date Timecode Duration F.Cue Storage Place Fade F-Time R G B W
1 Red daily 10:00:00:00 00:00:05:00 B 33 WF 1.00 0 0 0 0
2 Green daily 00:00:05:00 1 A 05 WF 1.00 0 0 0 0
3 Blue daily 12:00:00:00 00:00:05:00 A 02 WF 1.00 0 0 0 0
4 Yellow daily 00:00:05:00 3 A 09 WF 1.00 0 0 0 0
# 4
Go
Back
GoTo
1
Timecode
00:00:00:00
system time
extern
25 fps
Close

At the left side of the Cuelist window are four buttons.

One button for **creating** a new Cuelist, to **open** a Cuelist, to open a Cuelist and to **attach** to the existing Cuelist and **saving** a Cuelist.

You can save a Cuelist also in a CSV format. This feature allows you to edit the Cuelist with your preferred Text-Editor for easy editing.

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At the right side of the Cuelist Window are four buttons for **adding entries** to the Cuelist, **remove entries** from the Cuelist and for **moving entries** to top or to down inside the Cuelist. To add a new Cuelist entry click at the plus button. To remove a Cuelist entry click at the minus button. To move a Cuelist entry one row to top click first the Cuelist entry you want to move and after click the button with the arrow top. To move a Cuelist entry one row down click first the Cuelist entry you want to move and after click the button with the arrow down.

## Multiselect - Select and modify more than one entry at ones.

**You can select and modify more than one entry at ones.** Select more than one entry with the left mouse button and click e.g. right into the field duration to change the duration of the selected entry's.

## Control the Cuelist - Play, Pause ...

At the bottom of the Cuelist window you have controls for **Go, Back, GoTo** and a **Play-Pause** button. Press Go to step to the next Cuelist entry. Press Back to step to the previous Cuelist entry. By typing in a number in the input field and Click at GoTo button the next Cuelist entry will be your typed in number.

## Timecode

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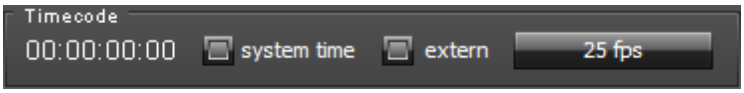


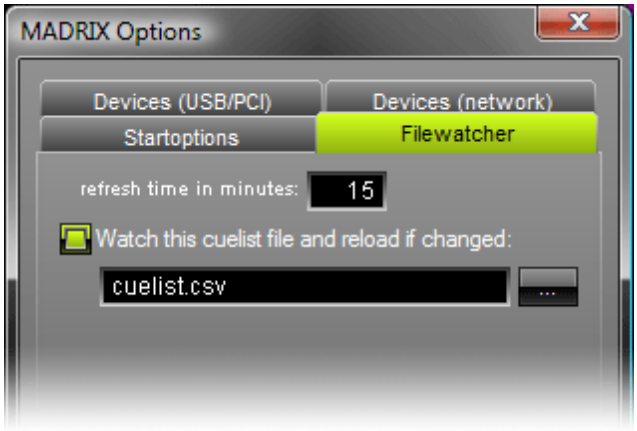

At the bottom of the Cuelist Window you find also the Timecode area. If you activate the **system time** switch your computer clock generates the Timecode. For example if your time from the computer clock is 10:00 am the generated Timecode is 10:00:00:00. If you activate **extern** MADRIX can receive Timecode from a console, other software solution ... With the **button 25fps** you can select the Timecode mode**.** The supported modes are **24fps, 25fps, 30fps non drop** and **30fps drop**.

The **format for Timecode** is HH:MM:SS:FF. The characters HH for Hour, the characters MM for minutes, the characters SS for seconds and the characters FF for frames.

**Receiving MIDI Timecode is available with MADRIX professional and MADRIX ultimate.**

**Using Timecode in combination with the system time is available in all MADRIX versions.**

## Filewatcher - automatic reload of the Cuelist




MADRIX can automatically reload a cuelist within a defined refresh time. To activate this feature go first in the MADRIX Options by pressing **Ctrl+Alt+O** or go to the menu **Preferences --> Options. Activate** now within the Filewatcher tab **"Watch this cuelist file and reload if changed"** and select the Cuelist file.

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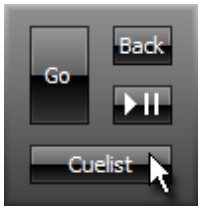
## 8.1 Cuelist typical




With MADRIX you can create a cuelist very simple and fast. To open the Cuelist click in the menue **Windows --> Cuelist**, or Press the keys **F7** or click at the MADRIX desk the **Cuelist** button. A new Cuelist window will be open.

At the right side of the Cuelist Window are four buttons for **adding entries** to the Cuelist, **remove entries** from the Cuelist and for **moving entries** to top or to down inside the Cuelist. To move a Cuelist entry one row to top click first the Cuelist entry you want to move and after click the button with the arrow top. To move a Cuelist entry one row down click first the Cuelist entry you want to move and after click the button with the arrow down.

### First Step

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First add a new entry by clicking at the plus button. To change the name of this entry click inside the description field and type in your text. To change the Storage, Place, Fade, or Fade Time (F-Time) click inside the fields and change the values. If you have activated CF for Color Fade inside the Fade type field you can modify the values for Red (R), Green (G), Blue (B) and White (W) for this Color Fade (CF). **Now you are finished and you can add more entries to this list.**

At the left side of the Cuelist window are four buttons.

One button for **creating** a new Cuelist, to **open** a Cuelist, to open a Cuelist and to **attach** to the existing Cuelist and **saving** a Cuelist.

## Second Step

At the bottom of the Cuelist window you have controls for **Go, Back, GoTo** and a **Play-Pause** button. Press Go to step to the next Cuelist entry. Press Back to step to the previous Cuelist entry. By typing in a number in the input field and Click at GoTo button the next Cuelist entry will be your typed in number.

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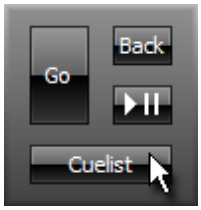
## 8.2 Cuelist with Duration




With MADRIX you can create a cuelist very simple and fast. To open the Cuelist click in the menue **Windows --> Cuelist**, or Press the keys **F7** or click at the MADRIX desk the **Cuelist** button. A new Cuelist window will be open.

| Cue | Description | Date | Timecode | Duration | F.Cue | Storage |
|---|---|---|---|---|---|---|
| 1 | Red | daily | | 00:00:05:00 | | B |
| 2 | Green | daily | | 00:00:15:00 | | A |
| 3 | Blue | daily | | 00:00:03:00 | | A |
| 4 | Yellow | daily | | 00:02:00:00 | | A |

At the right side of the Cuelist Window are four buttons for **adding entries** to the Cuelist, **remove entries** from the Cuelist and for **moving entries** to top or to down inside the Cuelist. To move a Cuelist entry one row to top click first the Cuelist entry you want to move and after click the button with the arrow top. To move a Cuelist entry one row down click first the Cuelist entry you want to move and after click the button with the arrow down.

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At the left side of the Cuelist window are four buttons. One button for **creating** a new Cuelist, to **open** a Cuelist, to open a Cuelist and to **attach** to the existing Cuelist and **saving** a Cuelist.

## First Step

First **add a new entry** by clicking at the plus button. To change the name of this entry click inside the description field and type in your text. To change the Storage, Place, Fade, or Fade Time (F-Time) click inside the fields and change the values. If you have activated CF for Color Fade inside the Fade type field you can modify the values for Red (R), Green (G), Blue (B) and White (W) for this Color Fade (CF).

## Second Step

The next step is to **set the duration** for a Cuelist entry.The **format for** the **duration** is HH:MM:SS:FF. The characters HH for Hour, the characters MM for minutes, the characters SS for seconds and the characters FF for frames.

| Cue | Description | Date | Timecode | Duration | F.Cue | Storage |
|---|---|---|---|---|---|---|
| 1 | Red | daily | | 00:00:05:00 | | B |
| 2 | Green | daily | | 00:00:15:00 | | A |
| 3 | Blue | daily | | 00:00:03:00 | | A |
| 4 | Yellow | daily | | 00:02:00:00 | | A |

**You can type in in following values for the duration:**

For an input of **one hour** you can use **01000000** or **01:00:00:00** or **01,00,00,00** or **01.00.00.00** or **01/00/00/00** or **1h** or **01h00m00s00f**.

For an input of **ten minutes** you can use **00100000** or **00:10:00:00** or **00,10,00,00** or **00.10.00.00** or **00/10/00/00** or **10m** or **00h10m00s00f**.

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For an input of **ten seconds** you can use **00001000** or **00:00:10:00** or **00,00,10,00** or **00.00.10.00** or **00/00/10/00** or **10s** or **00h00m10s00f**.

For an input of **ten frames** you can use **00000010** or **00:00:00:10** or **00,00,00,10** or **00.00.00.10** or **00/00/00/10** or **10f** or **00h00m00s10f**.

**Value 0 and space resets the value to the default value.**

**Now you are finished and you can add more entries to this list.**

## Third Step

At the bottom of the Cuelist window you have controls for **Go, Back, GoTo** and a **Play-Pause** button. **Now press the Play-Pause button to start your Cuelist.** The Cuelist is now automatically running.

If all entries inside your Cuelist have a duration the Cuelist will repeat automatically from the beginning. If any entry inside the Cuelist don't have a duration the Cuelist will stop at this entry.

Maybe you want to stop the Cuelist at the last entry. You only have to remove the duration (Type in 0 in the input field for the duration.) for the last entry inside your Cuelist.

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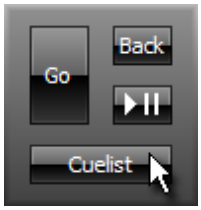
## 8.3 Cuelist with Date




With MADRIX you can create a cuelist very simple and fast. To open the Cuelist click in the menue **Windows --> Cuelist**, or Press the keys **F7** or click at the MADRIX desk the **Cuelist** button. A new Cuelist window will be open.

| Cue | Description | Date | Timecode | Duration | F.Cue | Storage |
|---|---|---|---|---|---|---|
| 1 | Red | daily | | 00:00:05:00 | | B |
| 2 | Green | daily | | 00:00:15:00 | | A |
| 3 | Blue | daily | | 00:00:03:00 | | A |
| 4 | Yellow | daily | | 00:02:00:00 | | A |

At the right side of the Cuelist Window are four buttons for **adding entries** to the Cuelist, **remove entries** from the Cuelist and for **moving entries** to top or to down inside the Cuelist. To move a Cuelist entry one row to top click first the Cuelist entry you want to move and after click the button with the arrow top.

To move a Cuelist entry one row down click first the Cuelist entry you want to move and after click the button with the arrow down.

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At the left side of the Cuelist window are four buttons.

One button for **creating** a new Cuelist, to **open** a Cuelist, to open a Cuelist and to **attach** to the existing Cuelist and **saving** a Cuelist.

## First Step - Add entry's

First **add a new entry** by clicking at the plus button. To change the name of this entry click inside the description field and type in your text. To change the Storage, Place, Fade, or Fade Time (F-Time) click inside the fields and change the values. If you have activated CF for Color Fade inside the Fade type field you can modify the values for Red (R), Green (G), Blue (B) and White (W) for this Color Fade (CF).

## Second Step - Input the date

The next step is to **set the date** for a Cuelist entry.The input format for the date is:

**Monday - Sunday:**

m and M ... Monday
t ... Tuesday
w and W ... Wednesday
T ... Thursday
f and F ... Friday
s ... Saturday
S ... Sunday

**Daily:**

d and D and 0 ... daily

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**Date:**

2009/03/01 ... 2009/03/31
2009:03:01 ... 2009:03:31
2009;03;01 ... 2009;03;31
2009-03-01 ... 2009-03-31

or use the short date input version:
09-03-01 ... 09-03-31

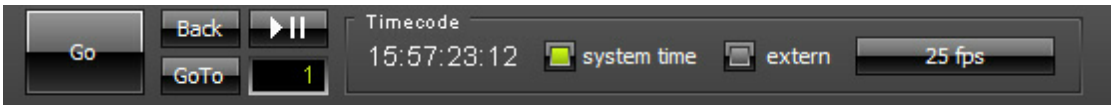
01 ... fist day of actual month and year
02 ... second day of actual month and year
...

01-01 ... first day and first month of the actual year
01-02 ... second day and first month of the actual year
...

**MADRIX starts always with the year 2000.**
**Value -1 and space resets the value to the default value "daily".**

Now you are finished and you can add more entries to this list.

## Third Step - System time and Play




**Enable now the switch system time.** At the bottom of the Cuelist window you have controls for **Go, Back, GoTo** and a **Play-Pause** button. **Now press the Play-Pause button to start your Cuelist.** The Cuelist is now automatically running.

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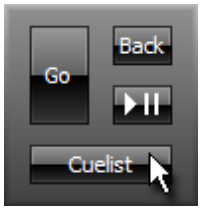
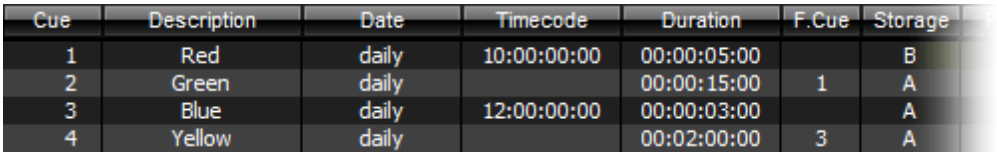
## 8.4 Cuelist with Timecode, Duration and Follow Cue




With MADRIX you can create a cuelist very simple and fast. To open the Cuelist click in the menue **Windows --> Cuelist**, or Press the keys **F7** or click at the MADRIX desk the **Cuelist** button. A new Cuelist window will be open.

**Receiving MIDI Timecode is available with MADRIX professional and MADRIX ultimate.**

**Using Timecode in combination with the system time is available in all MADRIX versions.**



| Cue | Description | Date | Timecode | Duration | F.Cue | Storage |
|---|---|---|---|---|---|---|
| 1 | Red | daily | 10:00:00:00 | 00:00:05:00 | | B |
| 2 | Green | daily | | 00:00:15:00 | 1 | A |
| 3 | Blue | daily | 12:00:00:00 | 00:00:03:00 | | A |
| 4 | Yellow | daily | | 00:02:00:00 | 3 | A |

At the right side of the Cuelist Window are four buttons for **adding entries** to the Cuelist, **remove entries** from the Cuelist and for **moving entries** to top or to down inside the Cuelist. To move a Cuelist entry one row to top click first the Cuelist entry you want to move and after click the button with the arrow top. To move a Cuelist entry one row down click first the Cuelist entry you want to move and after click the button with the arrow down.

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At the left side of the Cuelist window are four buttons. One button for **creating** a new Cuelist, to **open** a Cuelist, to open a Cuelist and to **attach** to the existing Cuelist and **saving** a Cuelist.

## First Step

First **add a new entry** by clicking at the plus button. To change the name of this entry click inside the description field and type in your text. To change the Storage, Place, Fade, or Fade Time (F-Time) click inside the fields and change the values. If you have activated CF for Color Fade inside the Fade type field you can modify the values for Red (R), Green (G), Blue (B) and White (W) for this Color Fade (CF).

## Second Step

The next step is to set the **Timecode and Duration** for a Cuelist entry.The **format for** the **Timecode and Duration** is HH:MM:SS:FF. The characters HH for Hour, the characters MM for minutes, the characters SS for seconds and the characters FF for frames.

| Cue | Description | Date | Timecode | Duration | F.Cue | Storage |
|---|---|---|---|---|---|---|
| 1 | Red | daily | 10:00:00:00 | 00:00:05:00 | | B |
| 2 | Green | daily | | 00:00:15:00 | 1 | A |
| 3 | Blue | daily | 12:00:00:00 | 00:00:03:00 | | A |
| 4 | Yellow | daily | | 00:02:00:00 | 3 | A |

**You can type in in following values for the Timecode and Duration:**

For an input of **one hour** you can use **01000000** or **01:00:00:00** or **01,00,00,00** or **01.00.00.00** or **01/00/00/00** or **1h** or **01h00m00s00f**.

For an input of **ten minutes** you can use **00100000** or **00:10:00:00** or **00,10,00,00** or **00.10.00.00** or **00/10/00/00** or **10m** or **00h10m00s00f**.

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For an input of **ten seconds** you can use **00001000** or **00:00:10:00** or **00,00,10,00** or **00.00.10.00** or **00/00/10/00** or **10s** or **00h00m10s00f**.

For an input of **ten frames** you can use **00000010** or **00:00:00:10** or **00,00,00,10** or **00.00.00.10** or **00/00/00/10** or **10f** or **00h00m00s10f**.

**Value -1 resets the Timecode value to the default value.**

**Now you are finished and you can add more entries to this list.**

## Third Step

The next step is to **set the Follow Cues.** To set up a Follow Cue click first at a entry you want to edit. Next click inside the field F.Cue. Inside the input field for F.Cue type in the number of the next following cue.

In this example the Cuelist entry #2 has as Follow Cue the Cuelist entry #1 and Cuelist entry #4 has as Follow Cue the Cuelist entry #3.

| Cue | Description | Date | Timecode | Duration | F.Cue | Storage |
|---|---|---|---|---|---|---|
| 1 | Red | daily | 10:00:00:00 | 00:00:05:00 | | B |
| 2 | Green | daily | | 00:00:15:00 | 1 | A |
| 3 | Blue | daily | 12:00:00:00 | 00:00:03:00 | | A |
| 4 | Yellow | daily | | 00:02:00:00 | 3 | A |

**You can type in numerical values or use the following keys for F.Cue:**

## Fourth Step

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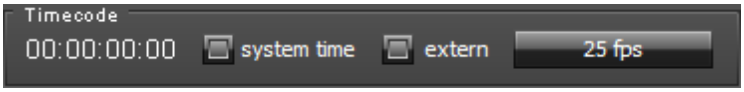
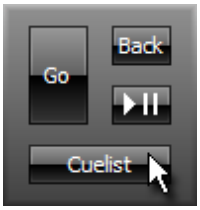
At the bottom of the Cuelist window you have controls for **Go, Back, GoTo** and a **Play-Pause** button. Now **press** the **Play-Pause** button to start your Cuelist **or click** the **Go/ Back / GoTo** button.



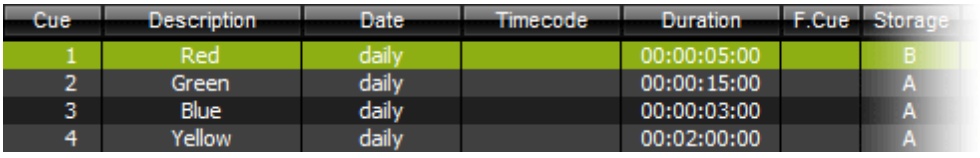

At the bottom of the Cuelist Window you find also the Timecode area. If you activate the **system time** switch your computer clock generates the Timecode. **For example if your time from the computer clock is 10:00 am the generated Timecode is 10:00:00:00.**

If you activate **extern** MADRIX can receive Timecode from a console, other software solution ... With the **button 25fps** you can select the Timecode mode**.** The supported modes are **24fps, 25fps, 30fps non drop** and **30fps drop**.

## 8.5 Cuelist - Inputs, keyboard layout




With MADRIX you can create a cuelist very simple and fast. To open the Cuelist click in the menue **Windows --> Cuelist**, or Press the keys **F7** or click at the MADRIX desk the **Cuelist** button. A new Cuelist window will be open.



| Cue | Description | Date | Timecode | Duration | F.Cue | Storage |
|---|---|---|---|---|---|---|
| 1 | Red | daily | | 00:00:05:00 | | B |
| 2 | Green | daily | | 00:00:15:00 | | A |
| 3 | Blue | daily | | 00:00:03:00 | | A |
| 4 | Yellow | daily | | 00:02:00:00 | | A |

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**You can use the following keys for:**

## Description

## Timecode and Duration

## F.Cue

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## Storage

## Place

## Fade

## F-Time

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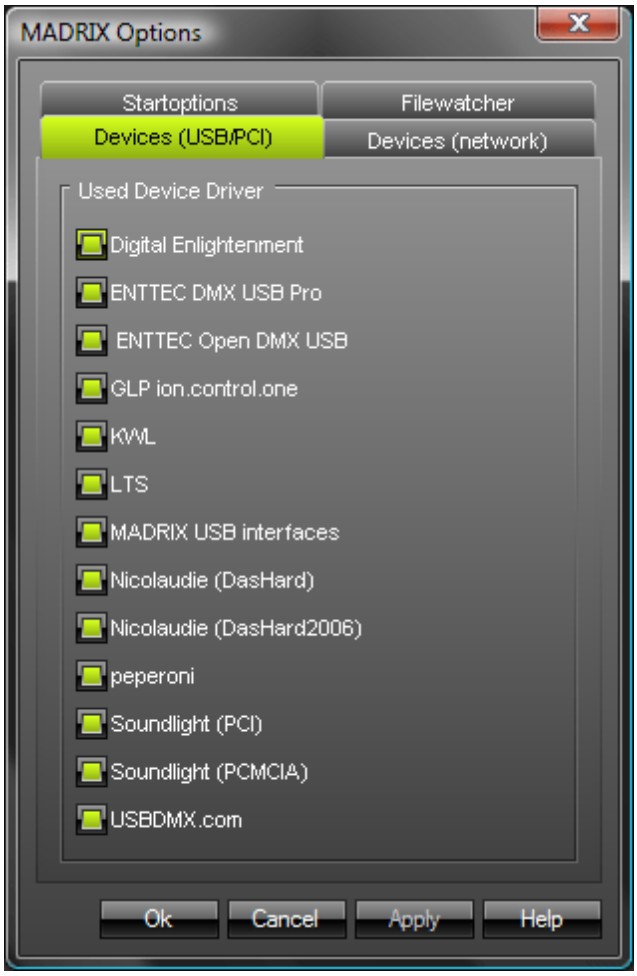
# Part

# 9 DMX-OUT, ArtNet, DVI and Network Devices

## 9.1 DMX512

For the administration of the DMX512 or Network Devices please check first if you have to enable some Network or DMX512 devices. Click in the menu **Preferences --> Options** or the press the keys **Ctrl-Alt-O**.




In this dialog you can set up the Network devices and the USB, PCI ... DMX512 devices. Here you can enable and disable the e:cue e:net driver or the Insta network driver for the InstaLight2022. All other USB, PCI ... DMX512 devices you can enable and disable in the tab **Devices (USB/PCI).**

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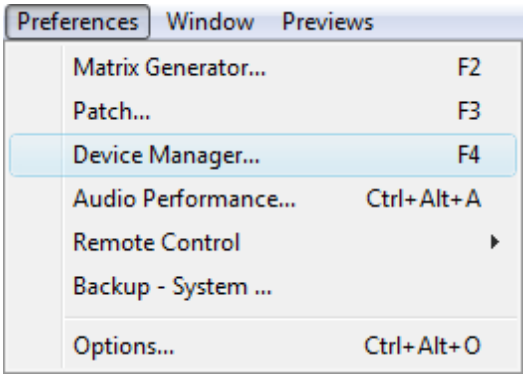
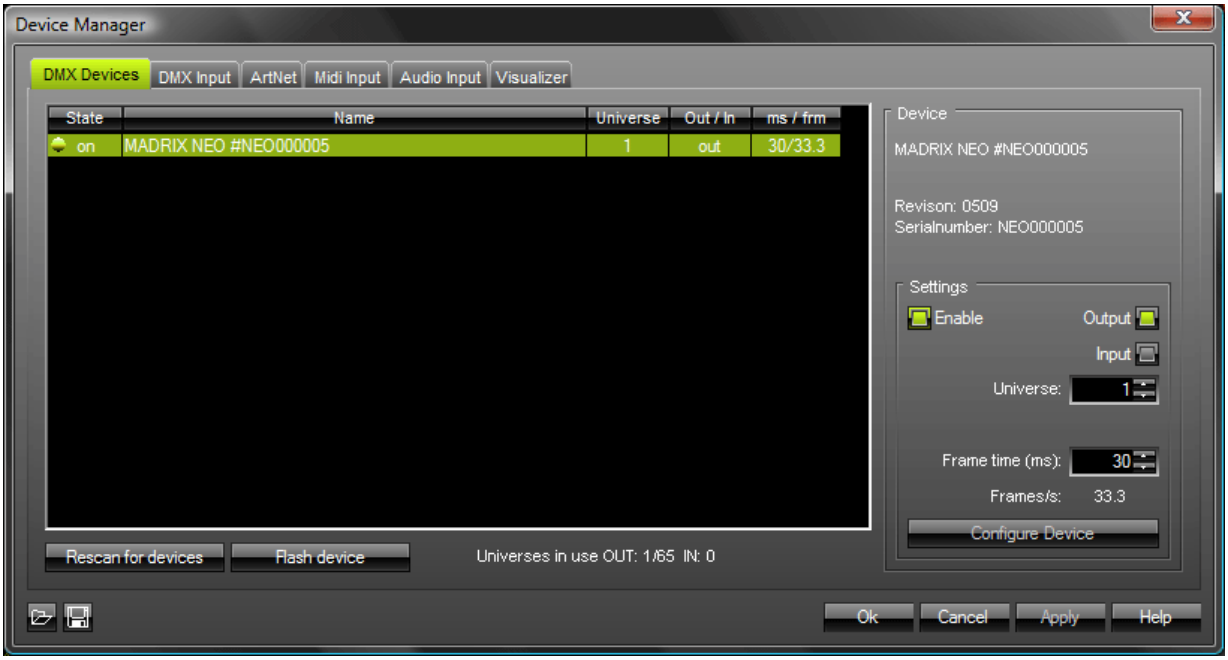
Next click inside the menu **Preferences** the entry **Device Manager** or press **F4**. In DMX Devices you decide which of the listed devices are the output devices and which are the input devices.




First of all please choose your DMX output device. If you click on Enable and Output the DMX data is being sent over this DMX device. Furthermore, enable the DMX input to use this device for DMX-Input. Click on Enable and then Input.

In this dialog you see a Configure Device button. By clicking this button you can edit the DMX device settings. After you have set up your Out and Input devices please press the OK button.

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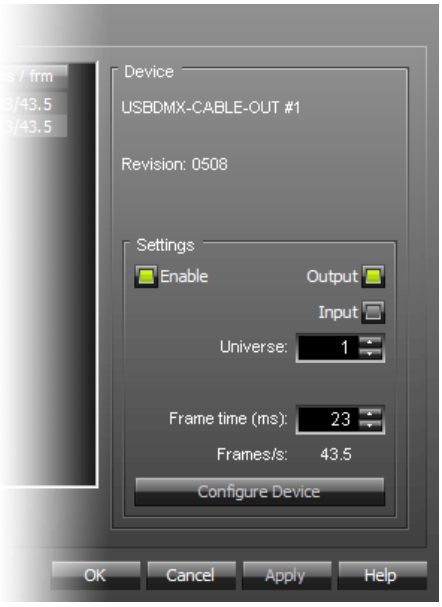
At the right side of the Device Manager Screen you can set up the DMX512 device as an output or input device, you can enable / disable devices, set up the DMX universe and you can set up the Frame time in ms for each device.




Setting up the Frame time helps you e.g. if you have e.g. different DMX512 devices attached which have different DMX512 output frames and you want to sync all to a specific frame rate **OR** your attached LED fixtures having problems with a fast frame rate, you can slow down the frame time by typing in larger values in ms.

## Highlight mode / Flash device

If you click at the Flash device button you activate / deactivate the **Highlight mode for the selected DMX512 / ArtNet interface & universe**. This makes it easier to see on stage and speed up the procedure of programming the selected DMX512 / ArtNet interfaces. Select one ore more interfaces, press the Flash device button. The attached fixtures at the selected interfaces flashes for a better identification.

## Rescan for devices

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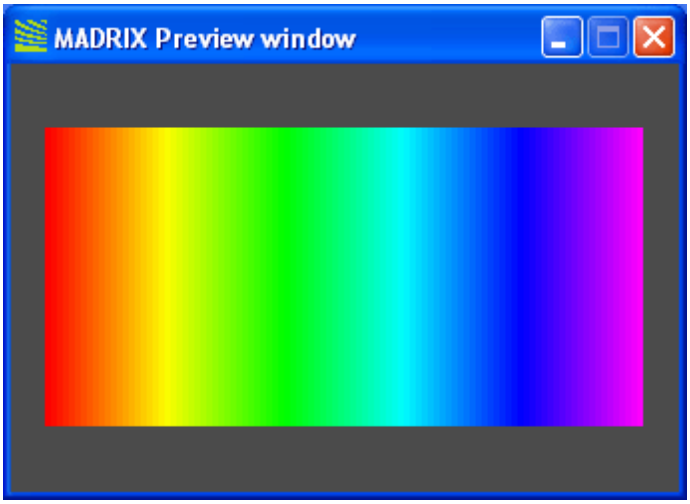
If you click at the **Rescan for devices** button MADRIX closes all DMX512, ArtNet, Network devices and searches for new devices.

## 9.2 DVI

**DVI** is the acronym of **Digital Visual Interface** and it is a standard interface created by the Digital Display Working Group. The DVI standard was created to allow the transfer of big quantity of video data in digital format, regardless of the type of monitor utilized.




MADRIX offers you the output of the data by the DMX512 protocol and by sending a DVI signal. To start the DVI output click inside the menu Previews -> Preview DVI and then on DVI, Windows or Fullscreen.

Click DVI 175 if you want a DVI window borderless, Window 177 for a window with frame and Fullscreen 178 for the output in fullscreen mode.

### Activate the DVI Output:

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DVI output is only available with MADRIX dvi, MADRIX professional and MADRIX ultimate. Inside the Demo version as well as the MADRIX basic version in the DVI output will a blinking cross appear. Only after purchasing MADRIX dvi, MADRIX professional or MADRIX ultimate and the attached MADRIX security key (software protection dongle) the cross will disappear.

### 9.2.2 The DVI window (borderless)

If you have activated inside the menu Previews -> Preview DVI -> DVI the DVI window appears without a frame. You can easy move this window by clicking and holding the left mouse button. You get a context menu by clicking right inside the DVI window.

You can activate and deactivate a grid by choosing Grid inside the context menu. The function Stretch Pixel inside the context menu allows a scaling of your preview to the maxium size of your preview window or the DVI fullscreen window. If you want the window to be always on top click inside the context menu on the entry Always on top.

If you want to have a fix position, click right inside the dvi window and choose DVI Position. Now you can setup the x and the y coordinate for this DVI window.

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You can lock this window on this position. Click right and choose Lock Position from the context menu.

Flip vertical and Flip horizontal inside the context menu flips the output of the DVI window. You can also turn the Grid on and off. Click Close to close this Window.

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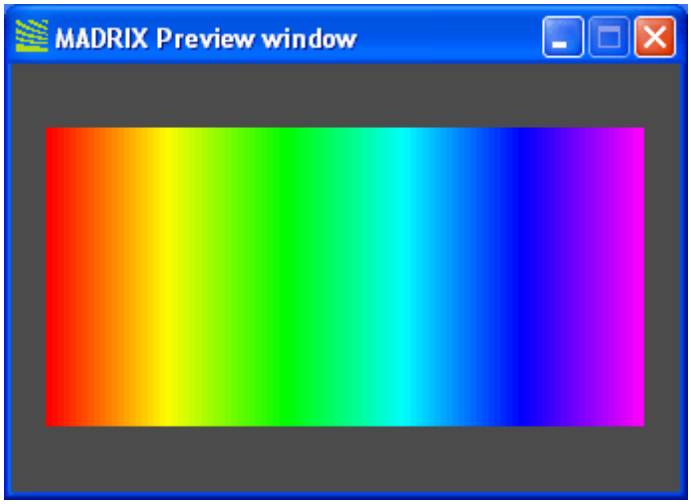
### 9.2.3 The DVI window with frame




If you have activated inside the menu **Previews -> Preview DVI -> Window** the DVI window appears with a Windows border. You can now easy move this window by clicking in the title bar and holding the left mouse button.

You can activate and deactivate a grid by choosing Grid inside the context menu. The function Stretch Pixel inside the context menu allows a scaling of your preview to the maxium size of your preview window or the DVI fullscreen window. If you want this window always on top click inside the context menu on the entry Always on top.

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You can lock this window on this position. Click right and choose Lock Position from the context menu.

Flip vertical and Flip horizontal inside the context menu flips the output of the DVI window. You can also turn the Grid on and off. Click Close to close this Window.

### 9.2.4 The DVI fullscreen

If you have activated inside the menu **Previews -> Preview DVI -> Fullscreen** the DVI window appears in full screen mode.

You can activate and deactivate a grid by choosing Grid inside the context menu. The function Stretch Pixel inside the context menu allows a scaling of your preview to the maximumsize of your preview window or the DVI full screen window. If you want to be window take always on top click inside the context menu on the entry Always on top.

Flip vertical and Flip horizontal inside the context menu flips the output of the DVI window. Also you can turn the Grid on and off. Click Close to close this Window.

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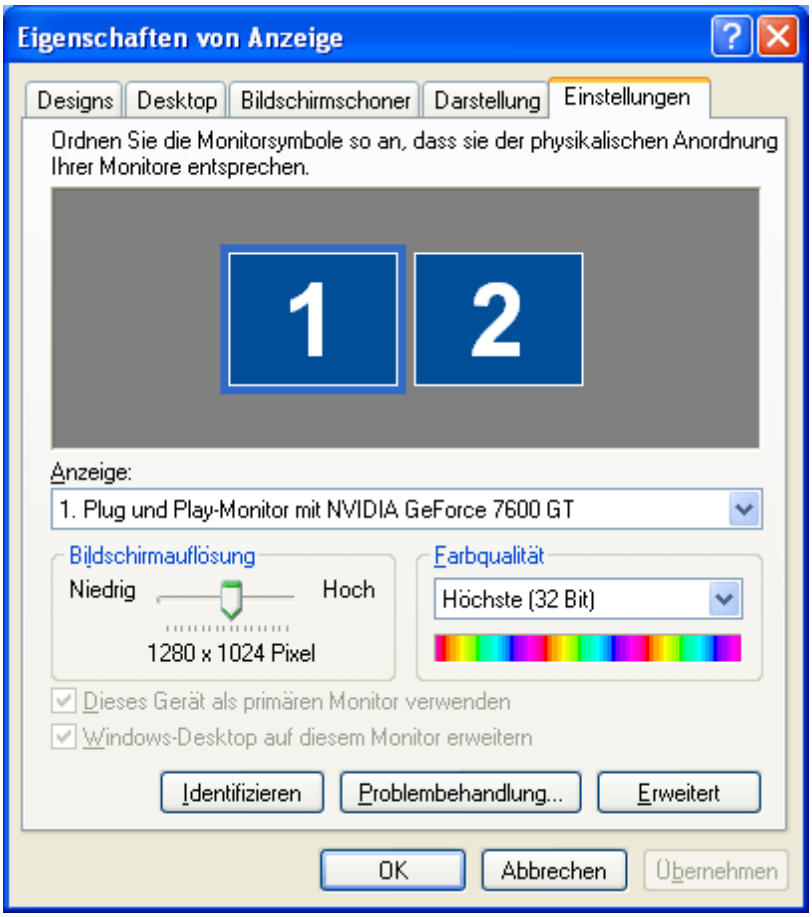
**Hint:** If you have installed a second, third etc. monitor you can easy move this window to the first or second etc. computer display by pressing the Tabulator key.




In this way you can use the full screen mode also to visualize the effects on your second monitor in DVI full screen mode while you are working with MADRIX on your first monitor.

**Note:**
You must install and configure your graphic card correctly to use this special feature!

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## 9.3 Network Devices: ArtNet, Insta-Net, ROBE, Philips Color Kinetics

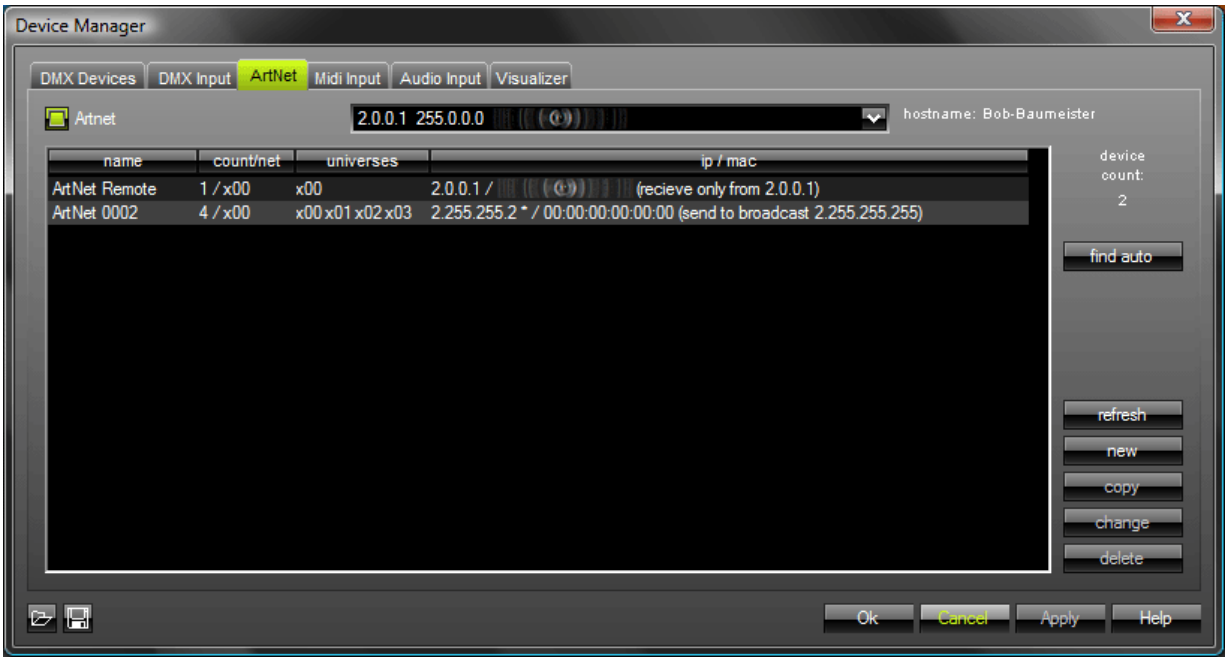
### 9.3.1 ArtNet

Please setup your network card to the following ArtNet address area:

- **2.0.0.1 ... 2.255.255.254**

- **10.0.0.1 ... 10.255.255.254**

**You must use this address area. Otherwise ArtNet may not work.**




Inside the tabulator for **ArtNet** you can configure the Artnet interfaces and the ArtNet support. If you want to use ArtNet with MADRIX you have to enable it.

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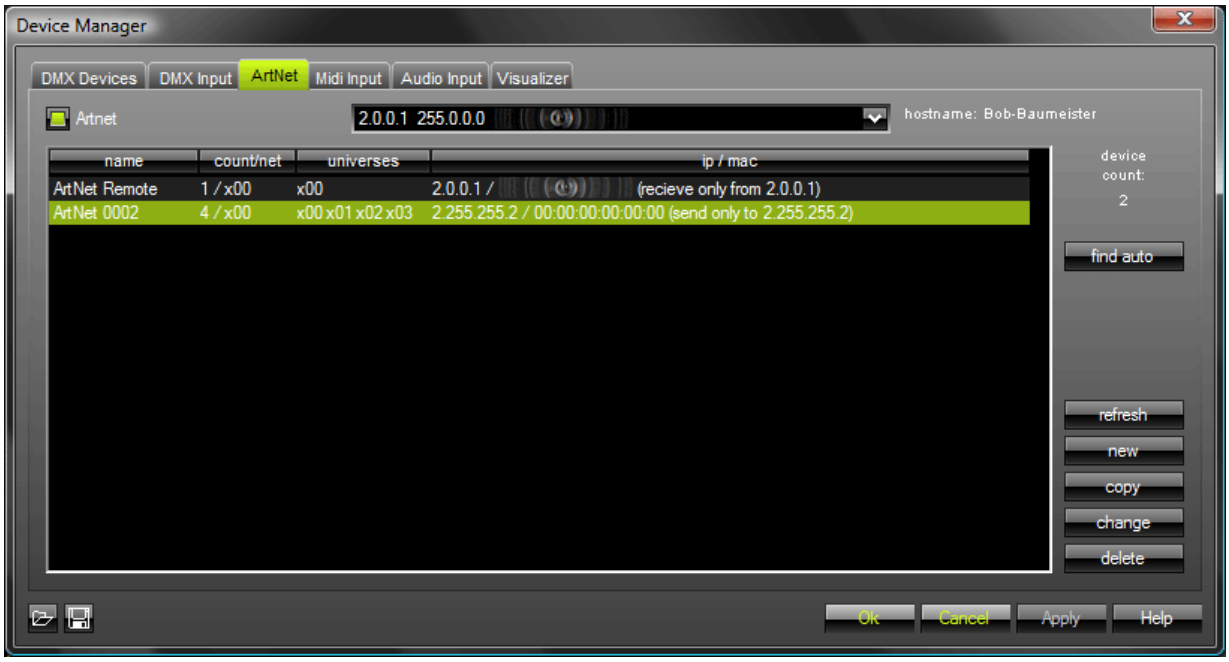
If you have ArtNet enabled you will see a ArtNet remote interface inside this list. This interface is only for remote controlling MADRIX. Please read the information about remote controlling MADRIX. 213

## ArtNet with ArtPollReply function - easy way




If your ArtNet interface supports the ArtPollReply function you can **press the find auto button to search for your ArtNet interface.** With refresh you can refresh the ArtNet list.

If you want to modify an ArtNet interface first click on the interface you want to modify and next on the change button. A new dialog will be opened.

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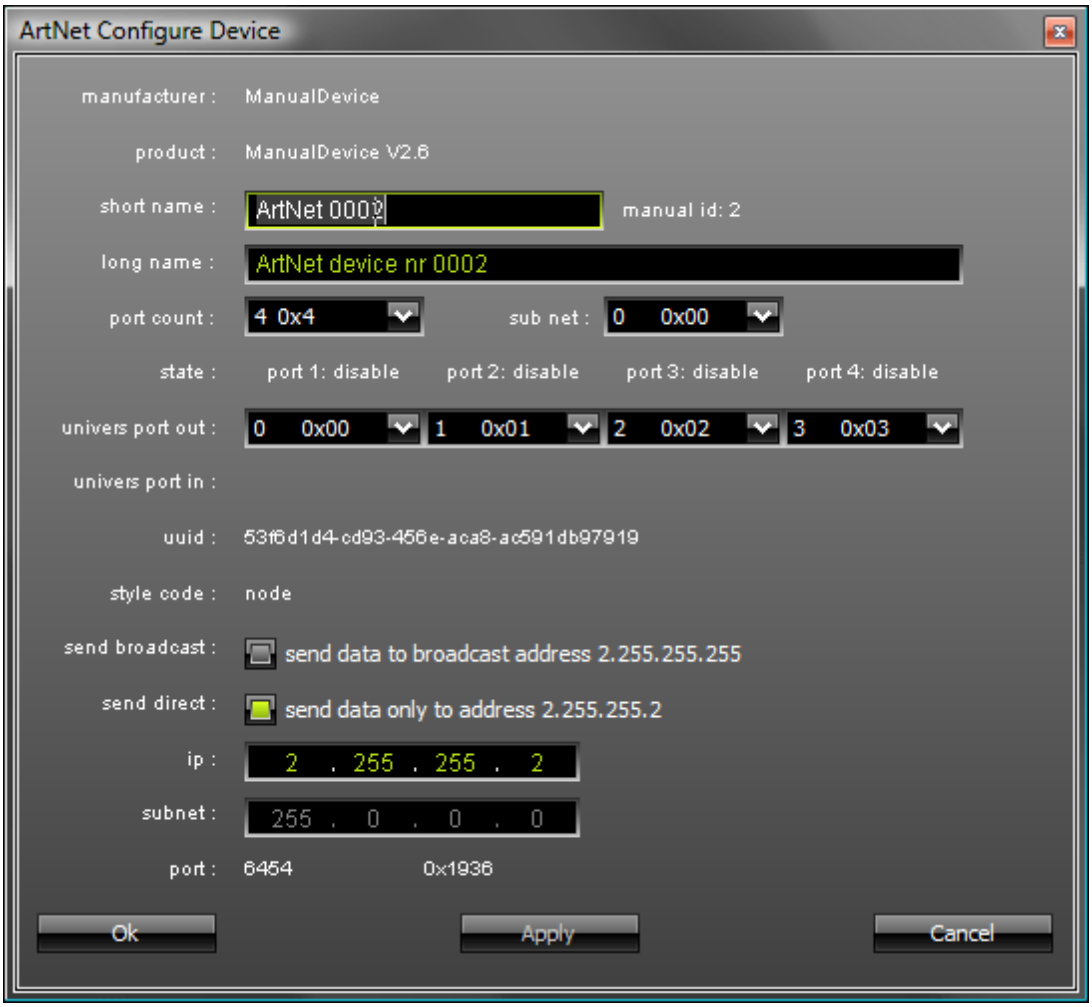


Inside this dialog you can"t modify your ArtNet device because of the ArtPollReply function. If you want to modify these interfaces you have found with the ArtPollReply function, you have to use the tools from your ArtNet interface producer. You can switch on the send broadcast.

**If send broadcast is switched on MADRIX sends data to whole ArtNet network. If this option is switched off MADRIX sends data to the listed IP-address directly.**

## ArtNet without ArtPollReply function - second way

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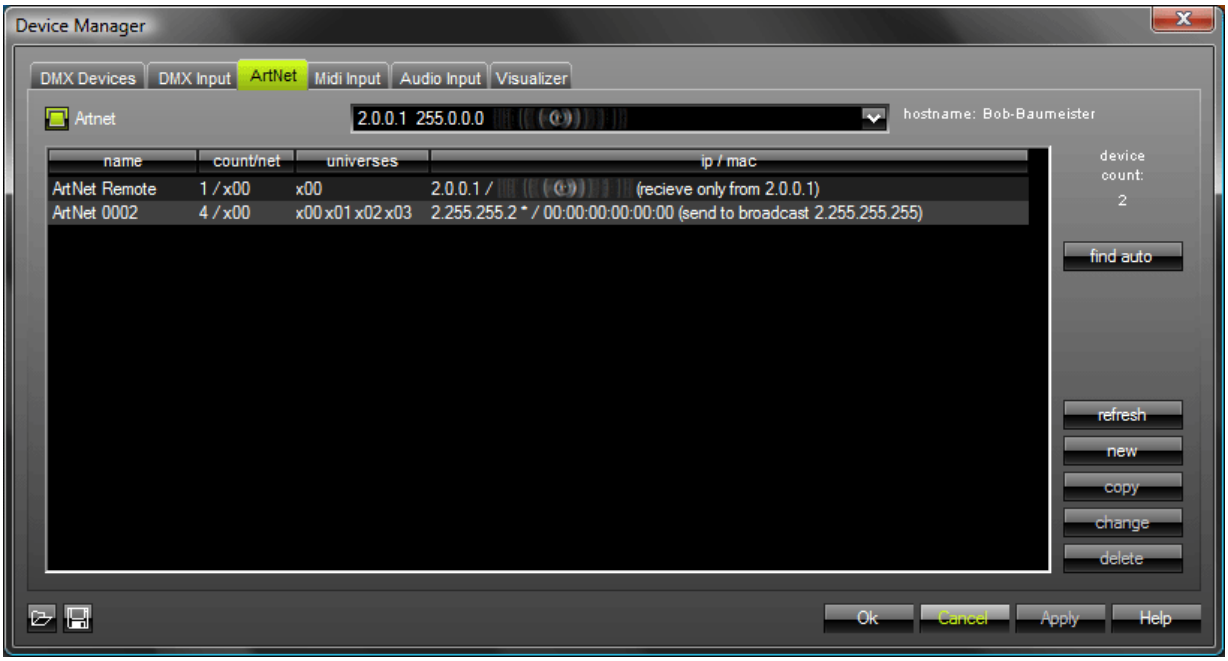


If your ArtNet interface don"t have a ArtPollReply function you can create a new interface by clicking the **new** button. Now you have to click on the **change** button. A new dialog will be opened:

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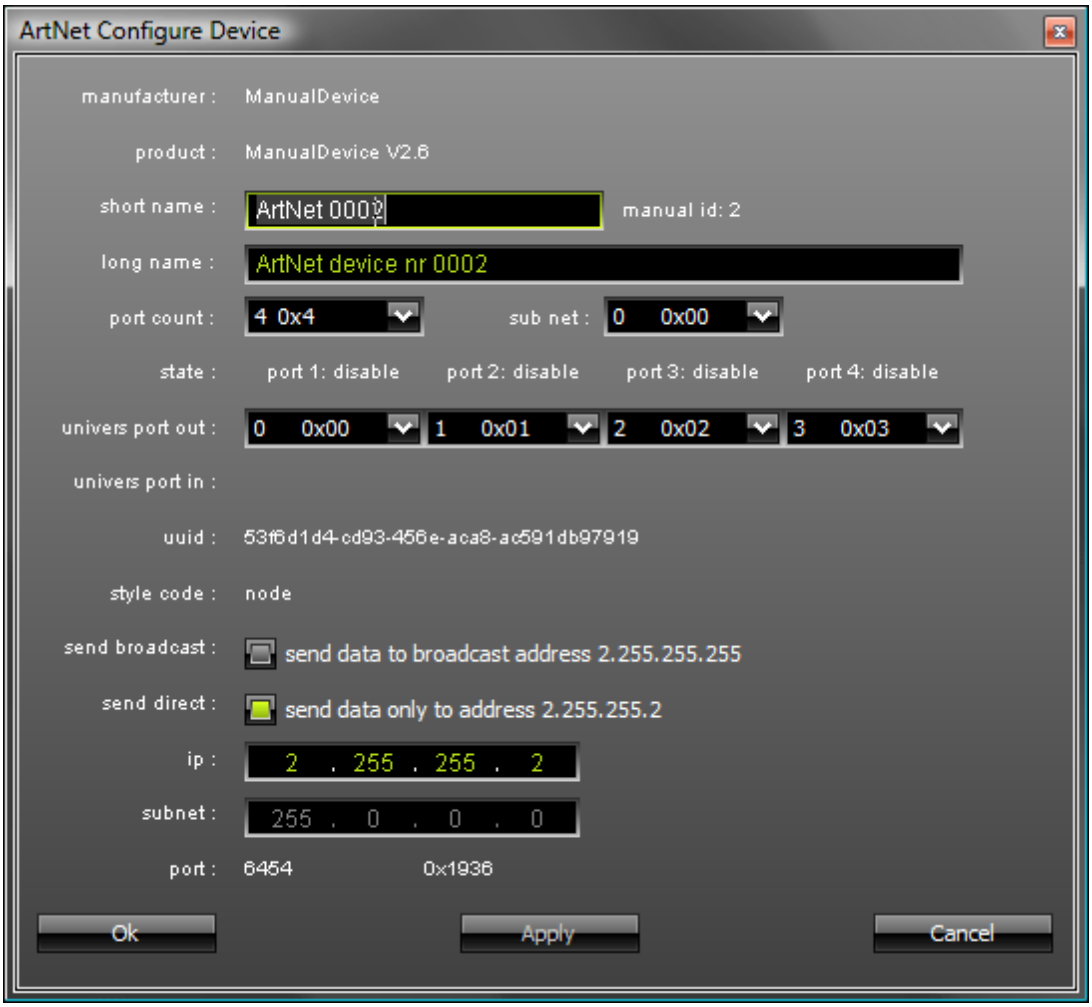


Inside this dialog you can modify your ArtNet device. You can give a short name and long name, setting up how many ports you have on this device, on which universe you want to send data and the IP address if you don't have activated the enable broadcast option.

## Activate your ArtNet interfaces

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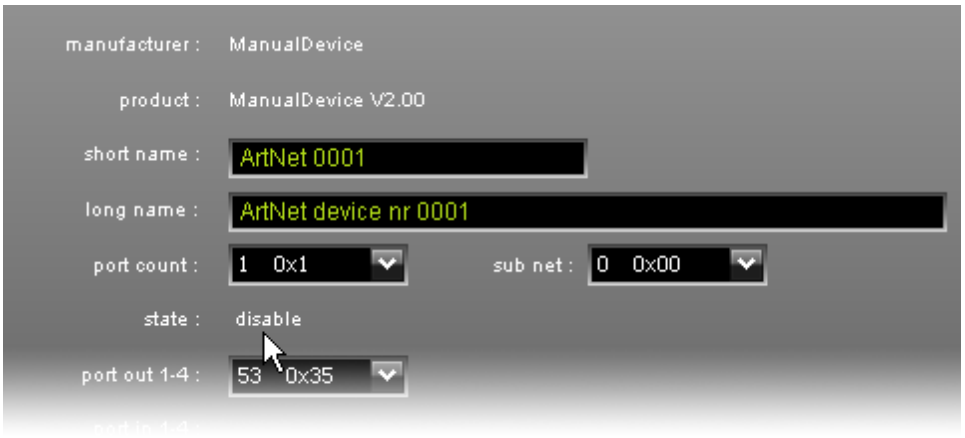
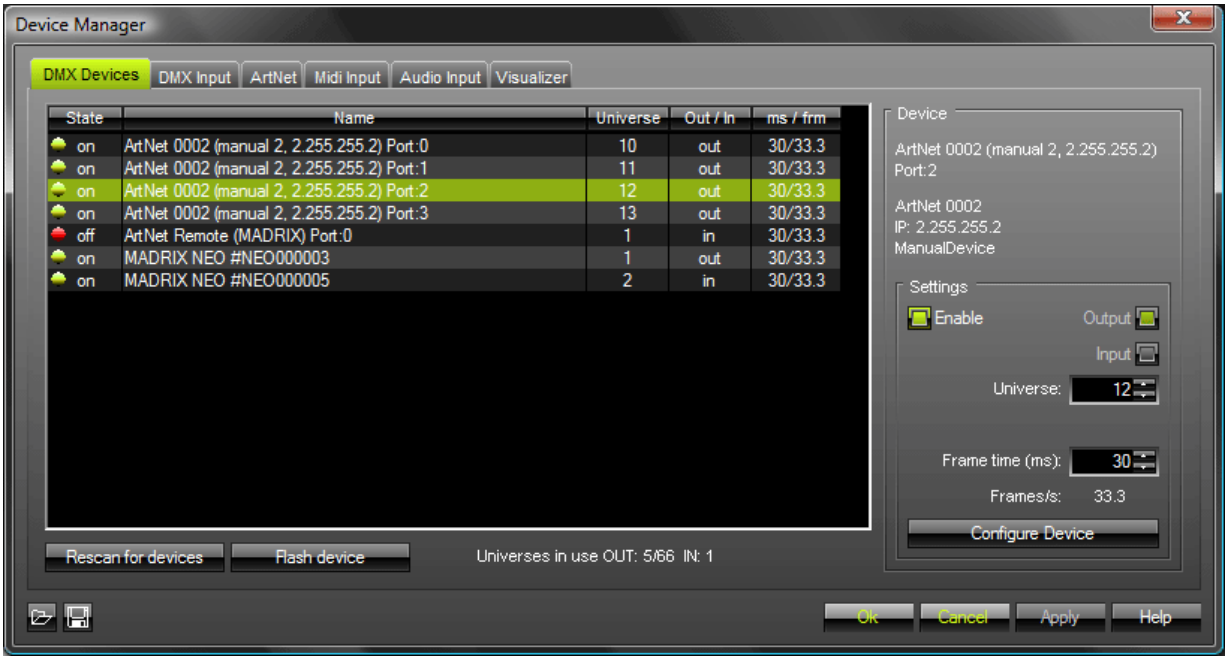

manufacturer : ManualDevice
product : ManualDevice V2.00
short name : ArtNet 0001
long name : ArtNet device nr 0001
port count : 1 0x1
sub net : 0 0x00
state : disable
port out 1-4 : 53 0x35

If you have finished all your settings for go back to the **DMX Devices tab** an **enable the output** of your interfaces.




Pressing **del** deletes the selected ArtNet interface from this list. After you have set up your Out and Input devices please press the OK button.

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#### 9.3.1.1 Using Enttec Datagate with MADRIX

The **ENTTEC Datagate** is a perfect match for the range of the MADRIX lighting control software, as it enables you to take full advantage of the **8.192DMX** channels in the **MADRIX basic**, **32.768 DMX** channels in the **MADRIX professional**, **130.560 DMX** channels in the **MADRIX ultimate**. MADRIX supports Art-Net.

The Datagate fully supports the Art-Net protocol, and can be configured to output anywhere between 1 and 8 DMX Universes. It also has the added advantage of isolation between its 8 DMX outputs (up to 1500 Volts). If a dangerous voltage were to get onto a DMX line, the Datagate will protect the rest of your equipment on the other lines, and keep working.

### How do I configure the ENTTEC Datagate?

You can use the software "Node Management Utility (NMU)" from ENTTEC to configure the Datagate with your computer in an easy way

### 4-Port DMX

To set the Datagate to output 4 Universes of DMX, hit the "Menu" button next to the LCD display on the Datagate"s front panel until it displays "1-Activate Profile". Hit "Enter" then "Scroll" until the Art-Net profile is displayed. Hit "Enter" to select, and the Datagate will display "Profile Activate". The Art-Netprofile configures ports 1-4 as Outputs for DMX Universe 1-4, and ports 5-8 as DMX Inputs.

### 8-Port DMX

To set the Datagate to output 8 Universes of DMX, follow the instructions above to access the "1-Activate Profile" menu on the Datagate. Select the "Enet -> DMX" profile, then change the protocol type on each of the 8 channels to Art-Net instead of the default ESP. This will give you 8 output ports. To change the protocol type, hit the "Menu" button until it displays "2-Edit Profile", hit "Enter" then "Scroll" until the display reads "2-3 EthernetConfig". Hit "Enter" again, then "Scroll" until "2-3-2 Protocol" is displayed. Hit "Enter", then "Scroll" until the display reads "Art-Net", then hit "Enter" once more. This will set the Datagate to output DMX Universes 1-8 on Ports 1-8.

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## Broadcast OR direct ip mode (Unicast)?

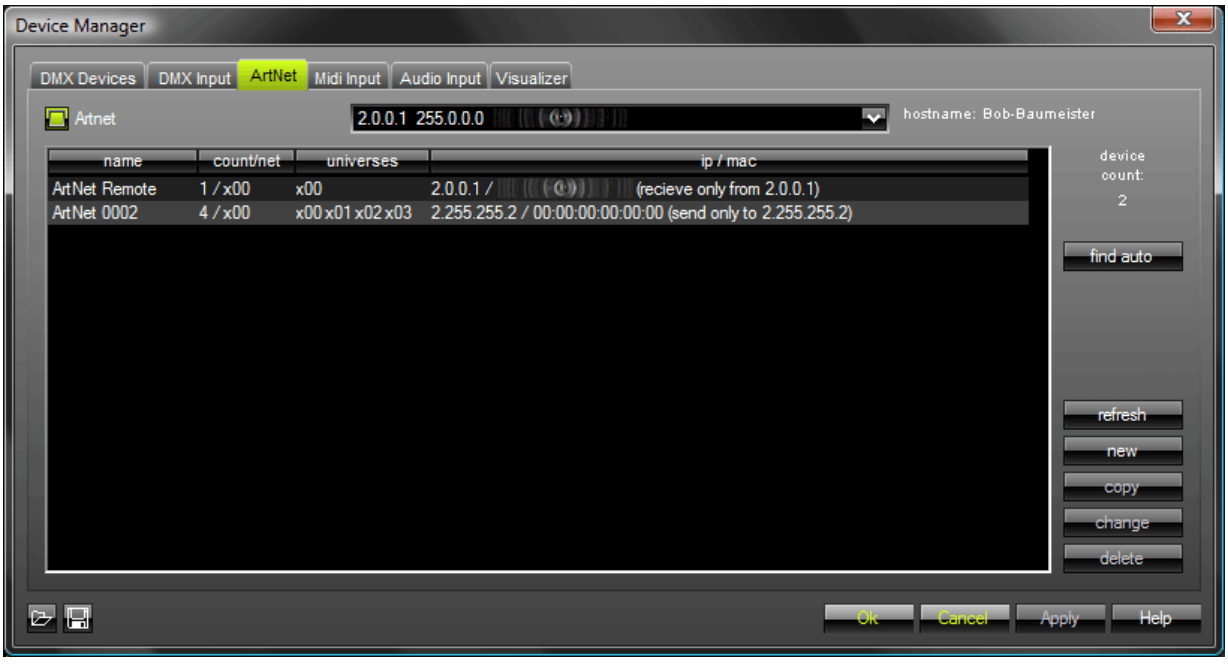
The ArtNet protocol used in broadcast mode means every packet sent from a single transmitter (MADRIX) will be received by all receivers in the network. This can be very useful if e.g. you wish universes 1 and 2 to be available on several points of the set up. The disadvantage is that by broadcasting a potentially huge number of packages over the network there is a limit of 40 DMX universes.

**To reduce network traffic we suggest using the direct ip mode (Unicast).**

**Hint:** In the next example we configure one Datagate with ports 1 – 8 to use DMX universe 1 – 8 with the broadcast mode.

## How do I configure MADRIX?

Please go to the MADRIX menu **"Preferences -> Device Manager"**. Click at the **"ArtNet" tab** and enable Artnet. Press the **"new"** button to add a new ArtNet device.




After you have pressed the **"new"** button you will see a new ArtNet device inside this screen called ArtNet 0001. Press **"change"** to configure this ArtNet device.

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In this dialog you can set up your ArtNet device. Please click first at the **"port count"** and select the port count **"4 0x4".**

In this example we have used the broadcast option.

**Hint:** You can also use the direct ip mode by activating the switch "send direct". In that case you have to type in the ip address of your Datagate.

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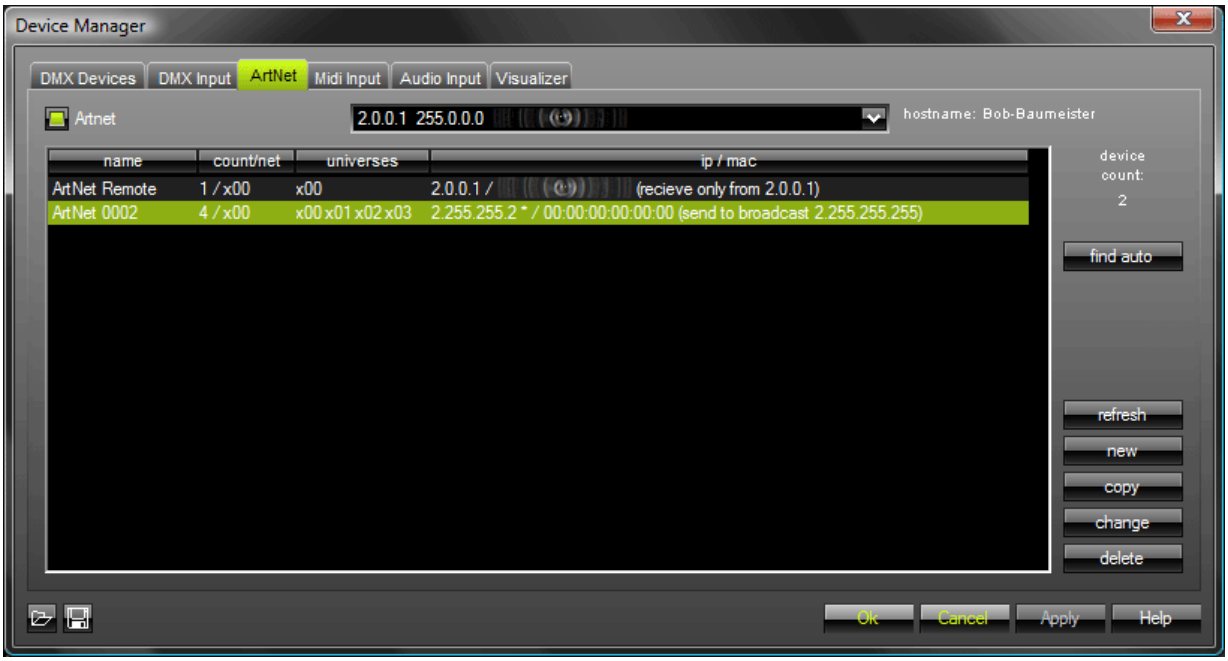
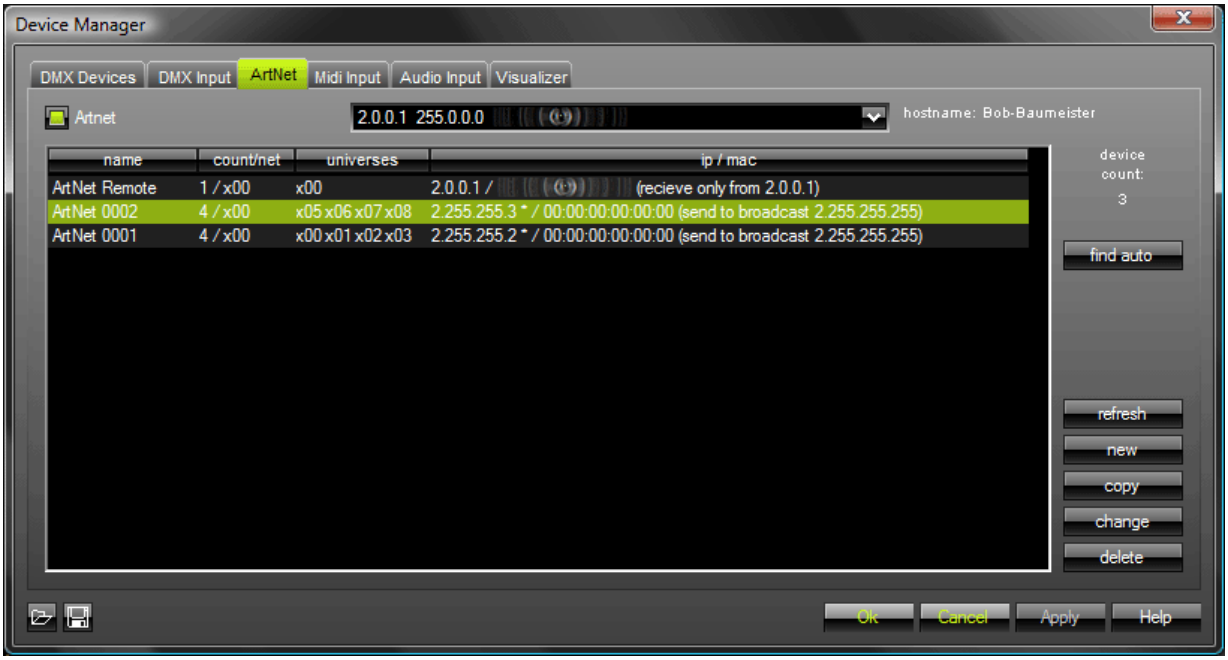



Now you see your new **ArtNet 0001** (ArtNet 0002 ...) device inside the list with 4 ports. Repeat this step and create a new ArtNet device by clicking at the "new" button.

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If you repeated the step you see **two ArtNet devices** (ArtNet 0001 and ArtNet 0002) inside the list. Now you can **modify these ArtNet devices** by selecting first the ArtNet device and clicking next the **"change"** button.

In this example we have modified the **short name** from ArtNet 0001 to **Datagate #1A**.

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ArtNet Configure Device
manufacturer : ManualDevice
product : ManualDevice V2.6
short name : Datagate #1B
manual id: 3
long name : ArtNet device nr 0003
port count : 4 0x4
sub net : 0 0x00
state : port 1: disable port 2: disable port 3: disable port 4: disable
univers port out : 5 0x05 6 0x06 7 0x07 8 0x08
univers port in :
uuid : c62cc570-cb21-42b2-9589-8fd9d1c4af5d
style code : node
send broadcast : send data to broadcast address 2.255.255.255
send direct : send data only to address 2.255.255.3
ip : 2 . 255 . 255 . 3
subnet : 255 . 0 . 0 . 0
port : 6454 0x1936
Ok
Apply
Cancel

Repeat this for the ArtNet 0002 device and modified the **short name** from ArtNet 0002 to **Datagate #1B.**

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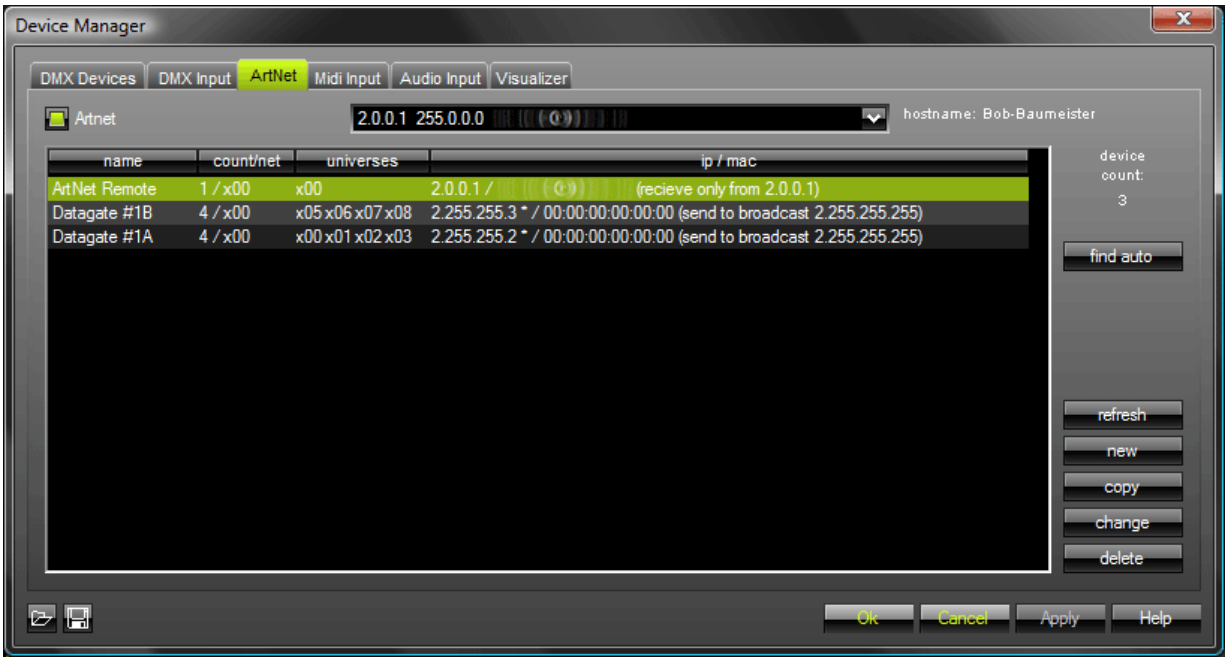


Now you see the two created ArtNet devices Datagate #1A and Datagate #1B inside the list.

**Result:**

Datagate #1A with the first 4 DMX universes and

Datagate #1B with the next 4 DMX universes.

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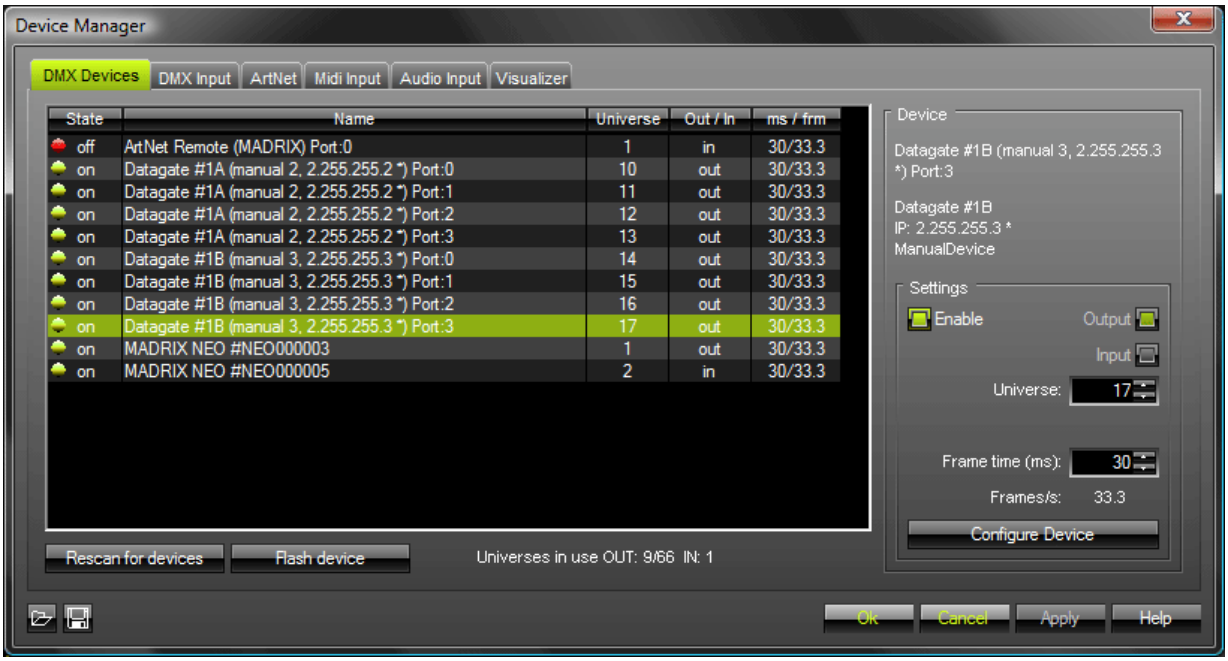

Device Manager
DMX Devices
DMX Input
ArtNet
Midi Input
Audio Input
Visualizer
State
Name
Universe
Out / In
ms / frm
off ArtNet Remote (MADRIX) Port:0 1 in 30/33.3
on Datagate #1A (manual 2, 2.255.255.2 *) Port:0 10 out 30/33.3
on Datagate #1A (manual 2, 2.255.255.2 *) Port:1 11 out 30/33.3
on Datagate #1A (manual 2, 2.255.255.2 *) Port:2 12 out 30/33.3
on Datagate #1A (manual 2, 2.255.255.2 *) Port:3 13 out 30/33.3
on Datagate #1B (manual 3, 2.255.255.3 *) Port:0 14 out 30/33.3
on Datagate #1B (manual 3, 2.255.255.3 *) Port:1 15 out 30/33.3
on Datagate #1B (manual 3, 2.255.255.3 *) Port:2 16 out 30/33.3
on Datagate #1B (manual 3, 2.255.255.3 *) Port:3 17 out 30/33.3
on MADRIX NEO #NEO000003 1 out 30/33.3
on MADRIX NEO #NEO000005 2 in 30/33.3
Device
Datagate #1B (manual 3, 2.255.255.3 *) Port:3
Datagate #1B
IP: 2.255.255.3 *
ManualDevice
Settings
Enable
Output
Input
Universe: 17
Frame time (ms): 30
Frames/s: 33.3
Configure Device
Rescan for devices
Flash device
Universes in use OUT: 9/66 IN: 1
Ok
Cancel
Apply
Help

Next click at the tab called **"DMX Devices". You have to enable the ArtNet devices by activating the Enable switch and you have to set up the DMX universe.**

**In this example we have all 8 ports of the Datagate used and activated for output.**

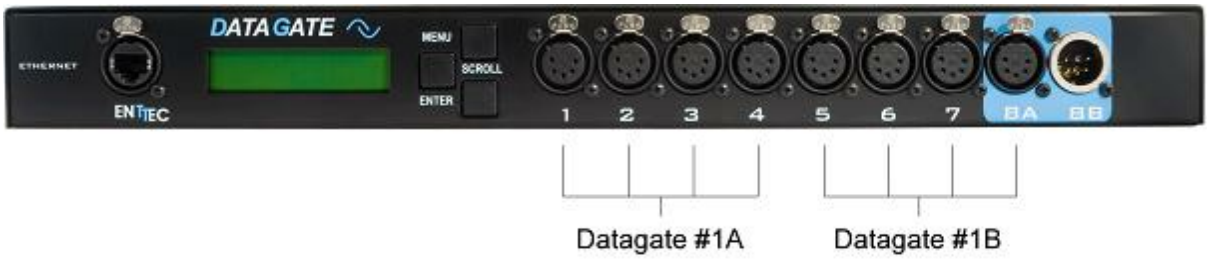
Datagate #1A Port:0 is the DMX universe 10

Datagate #1A Port:1 is the DMX universe 11

...

...

Datagate #1B Port:3 is the last DMX universe 17.

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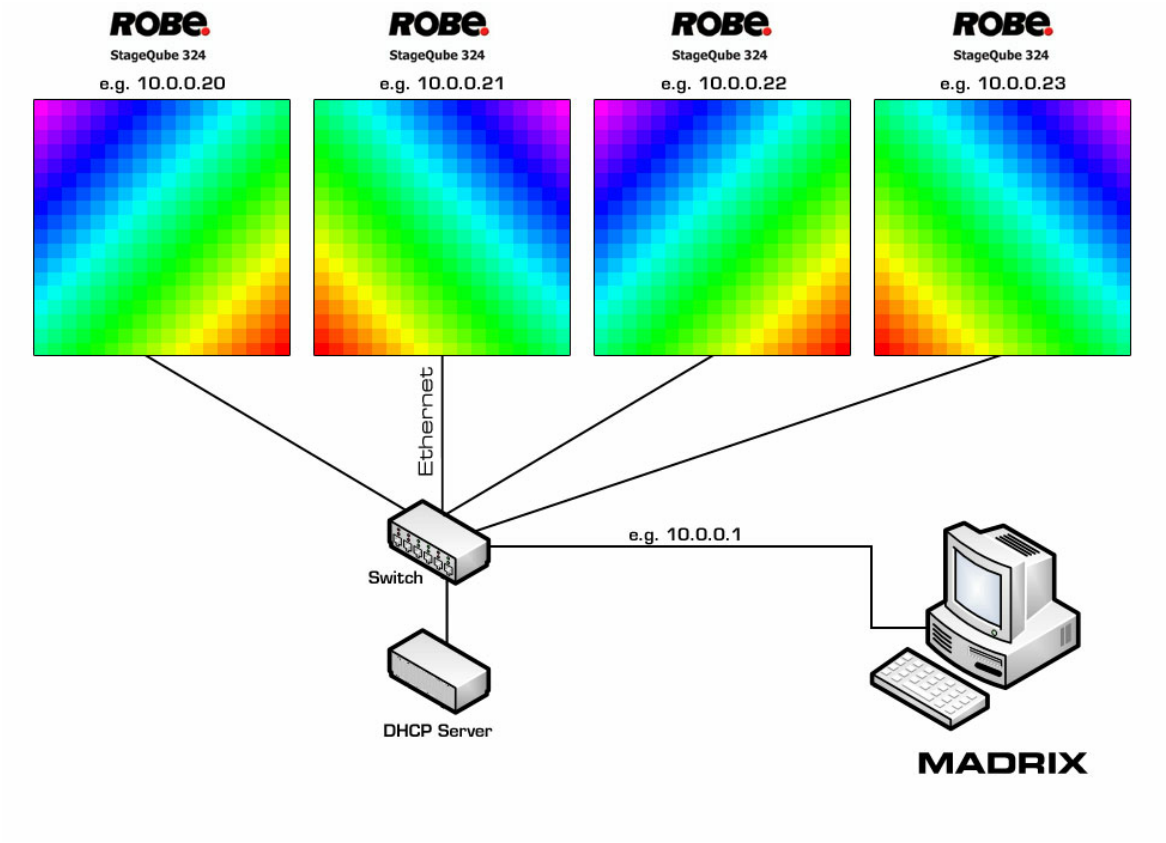
### 9.3.2 ROBE StageQube 324™

To use the ROBE StageQube 324™ you need a separate DHCP server. This can be a software or hardware DHCP server which handles the IP addresses of the ROBE StageQube 324™ and from the MADRIX computer. A good idea and option is that the DHCP server binds MAC addresses to IP addresses.

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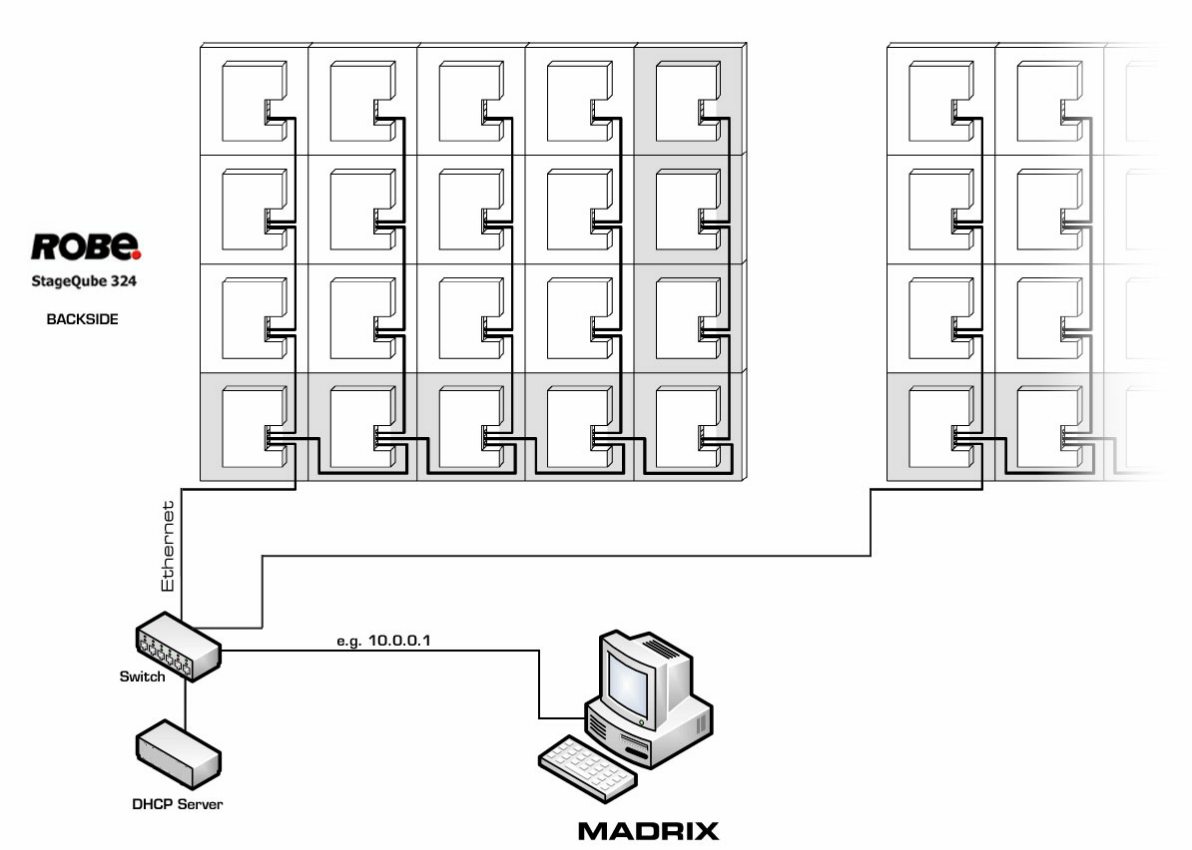


We recommend starting with the IP address range of **10.0.0.x** for MADRIX and ROBE StageQube 324™.

For the use of ROBE StageQube 324™ we suggest using only 1000Mbit network components. That means 1000Mbit network cards in your computer, 1000Mbit Switches and a DHCP server with 10/100/1000Mbit if your setup is like as in the configuration above.

For the administration of the ROBE StageQube 324™ driver please enable first the network driver. Click in the menu **Preferences --> Options** or the press the keys **Ctrl-Alt-O**. Select the tab **Devices (network)**.

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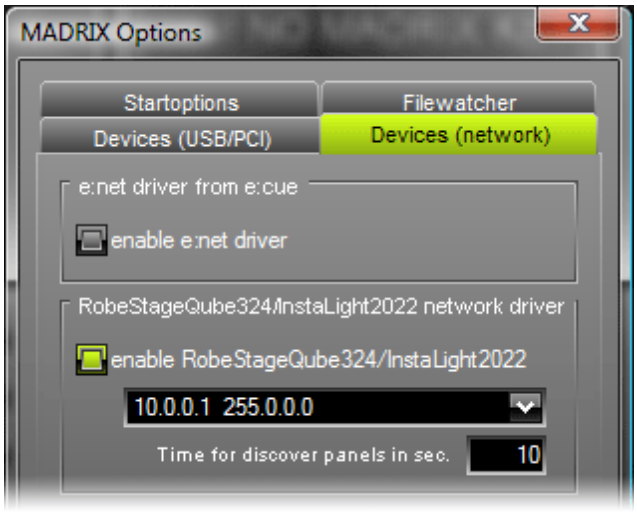
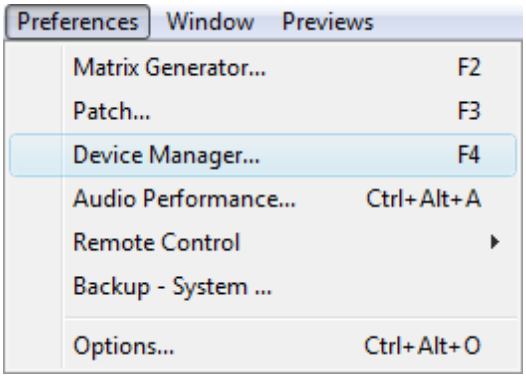



Here you can enable and disable the the ROBE / Insta network driver for the ROBE StageQube 324™. Inside the edit field **Time for discover devices in sec.** you can type in a value in seconds how long MADRIX searches the network for ROBE StageQube 324™ network devices.

> We recommend at least the value 10 for ten seconds for the field **Time for discover devices in sec.**.

Next click inside the menu **Preferences** the entry **Device Manager** or press **F4**. In the tab DMX Devices you decide which of the listed devices are output devices.

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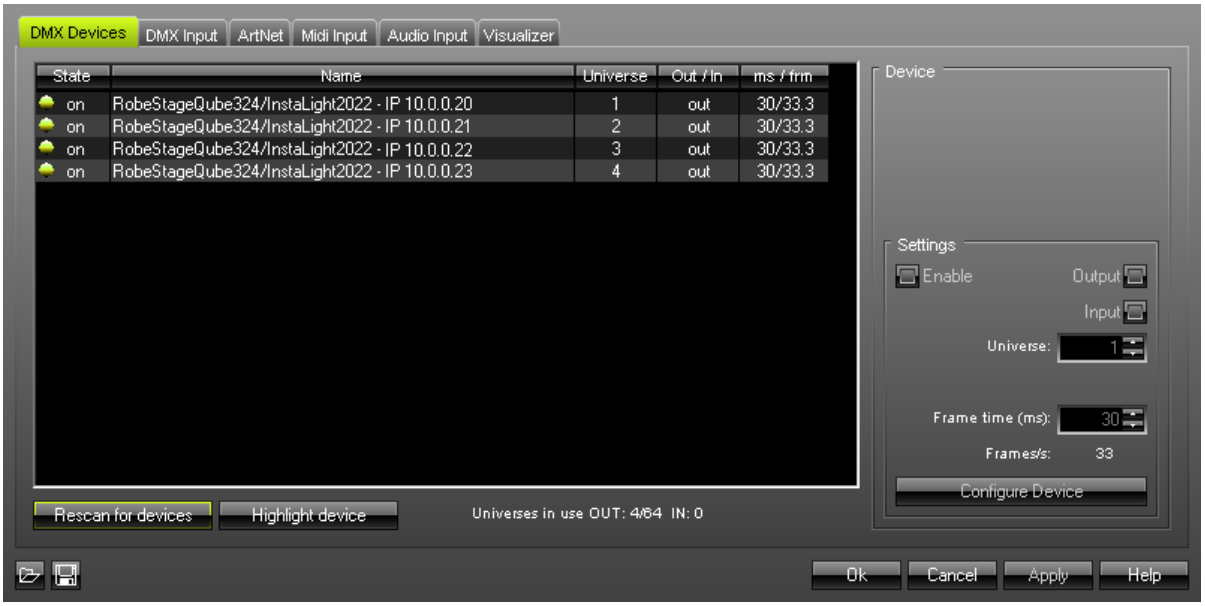
If you click on Enable and Output the data are being sent to this device. Check also if every device is on a different Universe. **In this example you see 4 x ROBE StageQube 324™ starting at Universe 1 to 4 with the IP addresses from 10.0.0.20 to 10.0.0.23.**




At the right side of the Device Manager Screen you can set up the device as an **output** device, you can enable / disable devices, set up the **Universe** and you can set up the **Frame time** in ms for each device.

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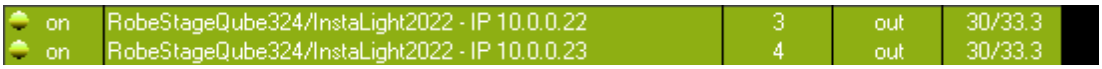
If you click at the **Configure Device button** or **double click the device** a new window will be opened in which you can set up the **Brightness**, **Contrast, luminesce time, frequency** and the values for **Red, Green** and **Blue** for the left half side and right half side **of each ROBE StageQube 324™.**




**HINT:** You can select one ROBE StageQube 324™ or select more than one to change the values for **Brightness**, **Contrast, luminesce time, frequency** and the values for **Red, Green** and **Blue.**

By **enabling the Live preview** switch you see live the parameters. By clicking at the button **set default** you get the factory default values.

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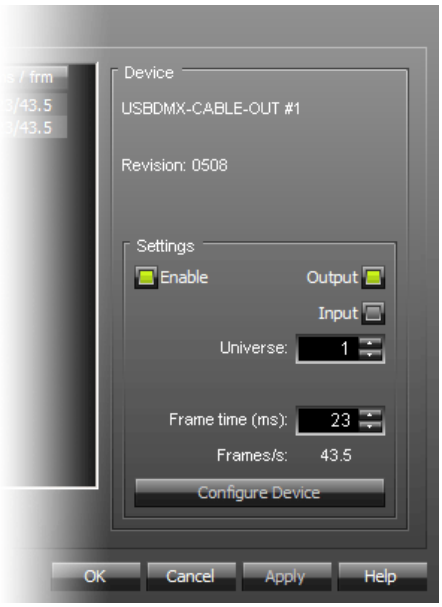


Setting up the Frame time helps you e.g. if you have e.g. different devices attached which have different output frame rates and you want to sync all to a specific frame rate **OR** your attached LED fixtures having problems with a fast frame rate, you can **slow down** the frame time by typing in **larger values** in ms.

## Highlight mode / Flash device

If you click at the Flash device button you activate / deactivate the **Highlight mode for the selected interface & universe**. This makes it easier to see on stage and speed up the procedure of programming the selected interfaces. Select one ore more interfaces, press the Flash device button. The attached fixtures at the selected interfaces flashes for a better identification.

## Rescan for devices

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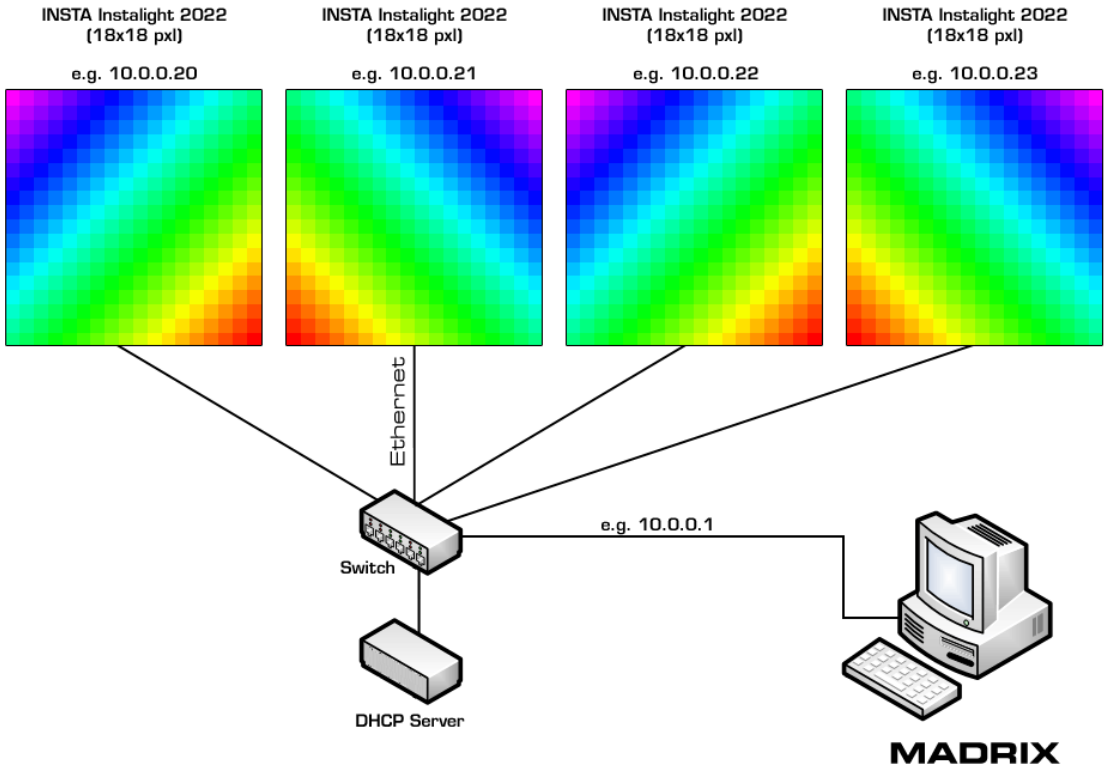
If you click at the **Rescan for devices** button MADRIX closes all devices and searches for new devices again.

### 9.3.3 Insta-Net

To use the InstaLight2022 LED Panel you need a separate DHCP server. This can be a software or hardware DHCP server which handles the IP addresses of the INSTA LED Panels and from the MADRIX computer. A good idea and option is that the DHCP server binds MAC addresses to IP addresses.

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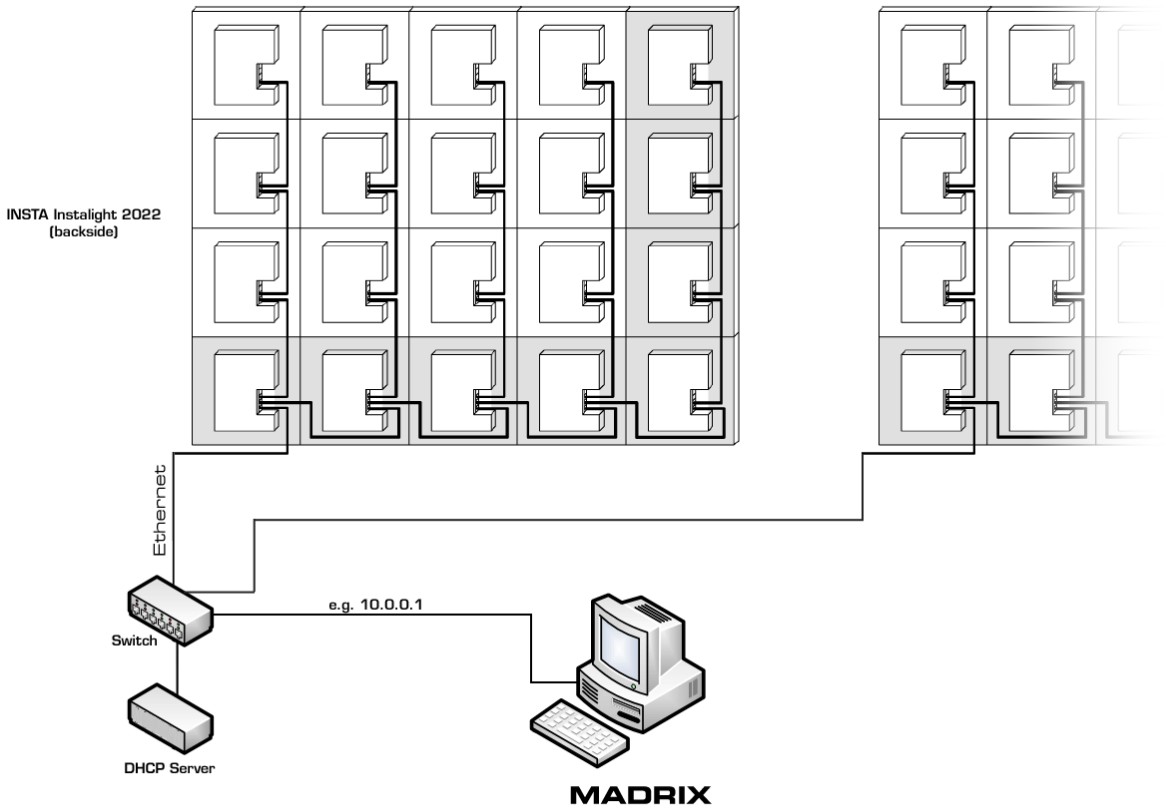


We recommend starting with the IP address range of **10.0.0.x** for MADRIX and InstaLight2022.

For the use of INSTA products we suggest using only 1000Mbit network components. That means 1000Mbit network cards in your computer, 1000Mbit Switches and a DHCP server with 10/100/1000Mbit if your setup is like as in the configuration above.

For the administration of the **INSTA network driver** please enable first the InstaLight2022 network driver. Click in the menu **Preferences --> Options** or the press the keys **Ctrl-Alt-O**. Select the tab **Devices (network)**.

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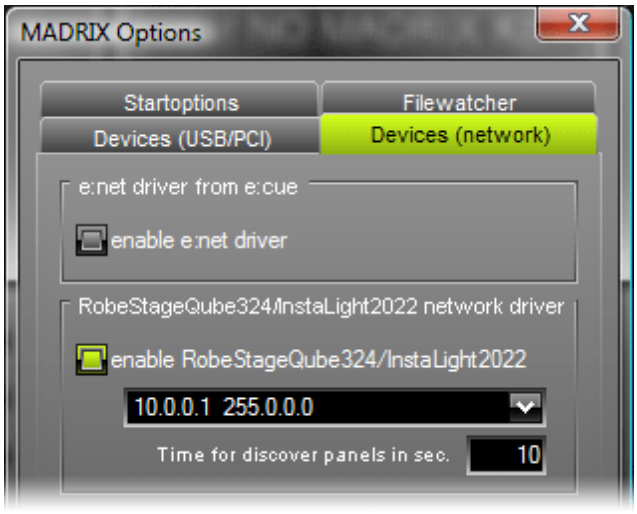
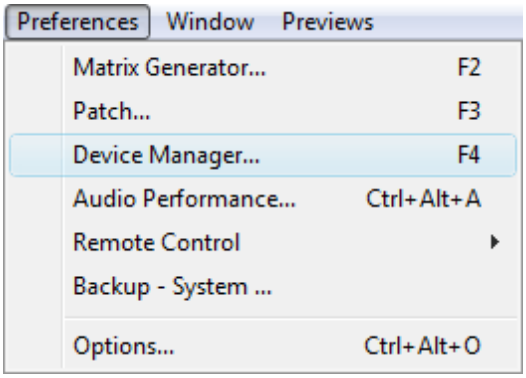



Here you can enable and disable the the Insta network driver for the InstaLight2022. Inside the edit field **Time for discover devices in sec.** you can type in a value in seconds how long MADRIX searches the network for INSTA network devices.

> We recommend at least the value 10 for ten seconds for the field **Time for discover devices in sec.**.

Next click inside the menu **Preferences** the entry **Device Manager** or press **F4**. In the tab DMX Devices you decide which of the listed InstaLight2022 are output devices.

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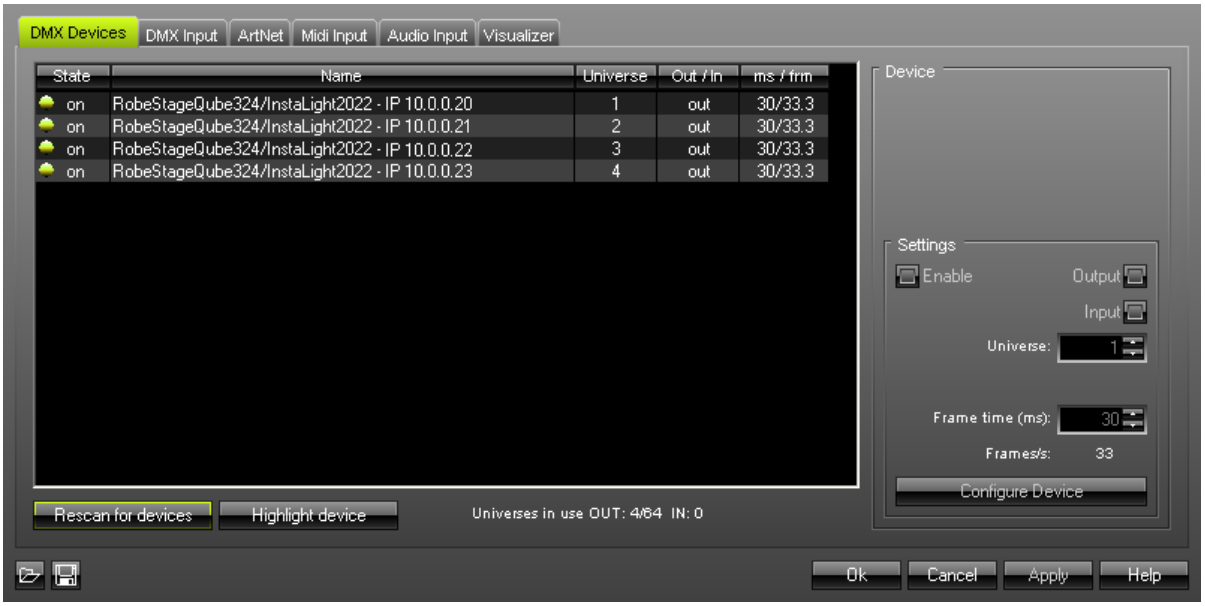
If you click on Enable and Output the data are being sent to this device. Check also if every InstaLight2022 is on a different Universe. **In this example you see 4 x InstaLight2022 starting at Universe 1 to 4 with the IP addresses from 10.0.0.20 to 10.0.0.23.**




At the right side of the Device Manager Screen you can set up the device as an **output** device, you can enable / disable devices, set up the **Universe** and you can set up the **Frame time** in ms for each device.

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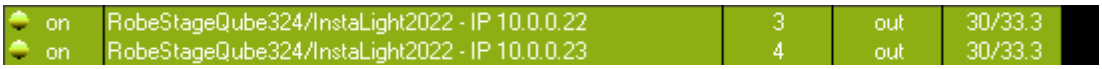
If you click at the **Configure Device button** or **double click the device** a new window will be opened in which you can set up the **Brightness**, **Contrast, luminesce time, frequency** and the values for **Red, Green** and **Blue** for the left half side and right half side **of each InstaLight2022 LED Panel.**




**HINT:** You can select one InstaLight2022 LED Panel or select more than one to change the values for **Brightness**, **Contrast, luminesce time, frequency** and the values for **Red, Green** and **Blue.**

By **enabling the Live preview** switch you see live the parameters. By clicking at the button **set default** you get the factory default values.

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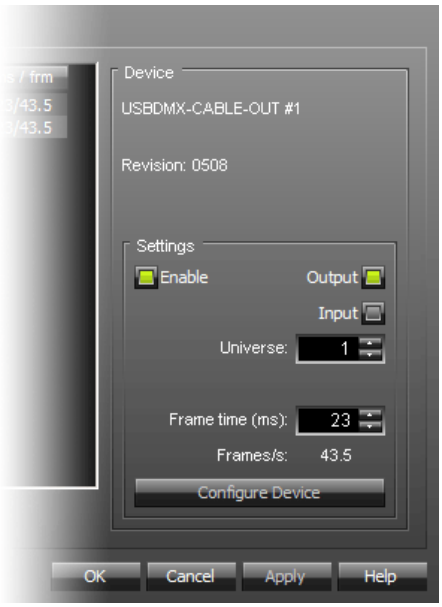


Setting up the Frame time helps you e.g. if you have e.g. different devices attached which have different output frame rates and you want to sync all to a specific frame rate **OR** your attached LED fixtures having problems with a fast frame rate, you can **slow down** the frame time by typing in **larger values** in ms.

## Highlight mode / Flash device

If you click at the Flash device button you activate / deactivate the **Highlight mode for the selected interface & universe**. This makes it easier to see on stage and speed up the procedure of programming the selected interfaces. Select one ore more interfaces, press the Flash device button. The attached fixtures at the selected interfaces flashes for a better identification.

## Rescan for devices

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If you click at the **Rescan for devices** button MADRIX closes all devices and searches for new devices again.

### 9.3.4 PHILIPS - Color Kinetics - KiNet

For the administration of the **PHILIPS Color Kinetics - KiNet network driver** please enable first the **KiNet network driver**. Click in the menu **Preferences --> Options** or the press the keys **Ctrl-Alt-O**. Select the tab **Devices (network)**.

The power supply's comes with a factory default IP address range settings of **10.0.0.x** therefore we recommend starting with this IP address range for MADRIX.

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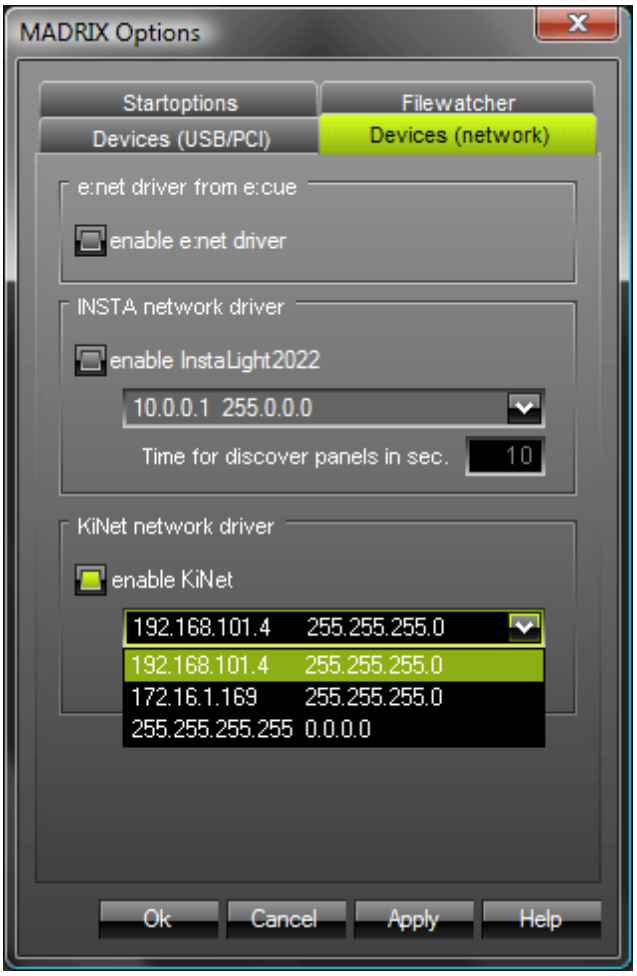


Here you can enable and disable the the **Color Kinetics** KiNet network driver. Inside the edit field **Time for discover devices in sec.** you can type in a value in seconds how long MADRIX searches the network for any Color Kinetics network device (power supply).

We recommend at least the value 10 for ten seconds for the field **Time for discover devices in sec.**.

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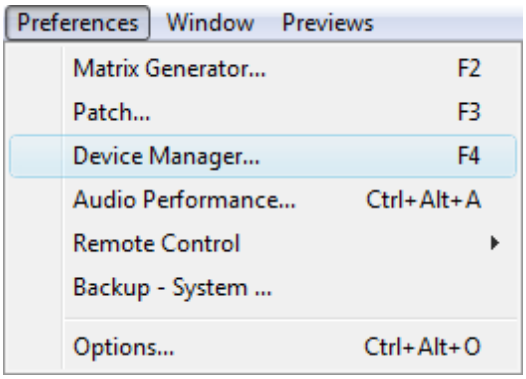
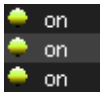


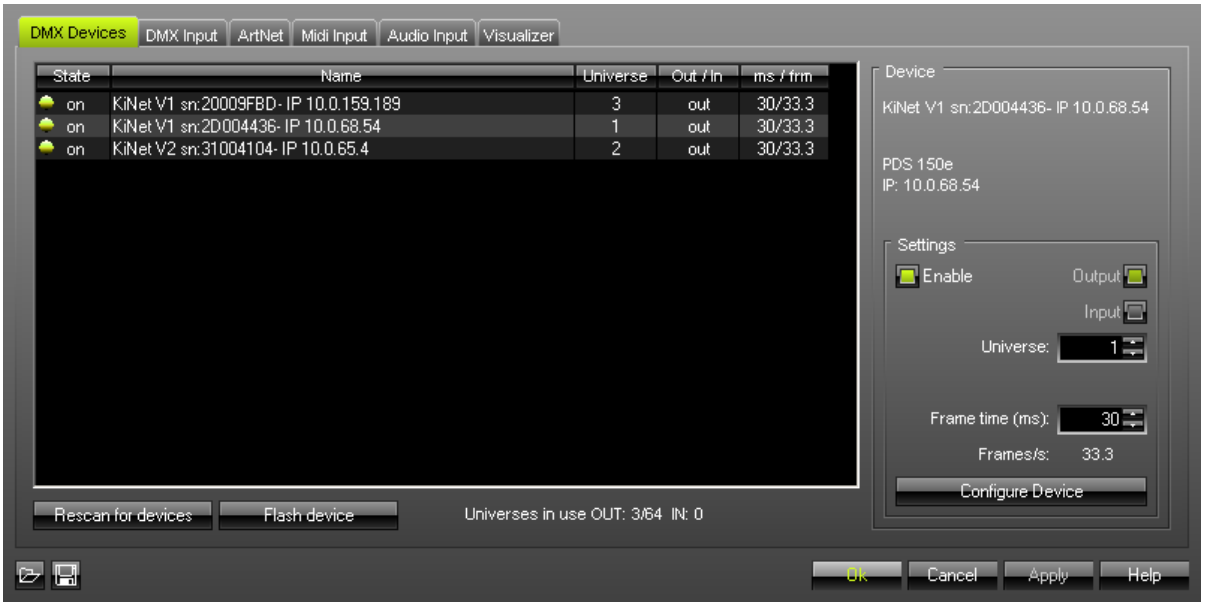

Next click inside the menu **Preferences** the entry **Device Manager** or press **F4**. In the tab DMX Devices you decide which of the listed devices are your output devices.

If you click on Enable and Output the data are being sent to this device. Check also if every device has an own / different DMX universe.

**In this example you see 2 x KiNet V1 and 1 x KiNet V2 power supply's at Universe 1 to 3 with the IP addresses 10.0.159.189, 10.0.68.54 and 10.0.65.4.**




**All devices are enabled and working - indicated with a green dot.**

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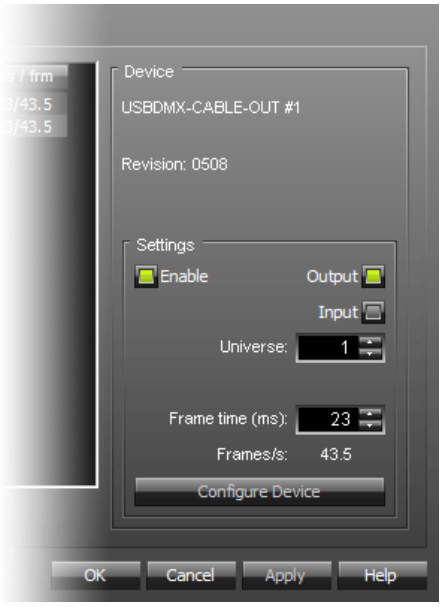
At the right side of the Device Manager screen you can set up the device as an **output** device, you can enable / disable devices, set up the **Universe** and you can set up the **Frame time** in ms for each device.




Setting up the **Frame time** helps you e.g. if you have e.g. different devices attached which have different output frame rates and you want to sync all to a specific frame rate **OR** your attached LED fixtures having problems with a fast frame rate, you can **slow down** the frame time by typing in **larger values** or **speed up** the frame time by typing in **smaller values** in ms.

## Highlight mode / Flash device

If you click at the Flash device button you activate / deactivate the **Highlight mode for the selected interface & universe**. This makes it easier to see on stage and speed up the procedure of programming the selected interfaces. Select one ore more interfaces, press the **Flash device** button. The attached fixtures at the selected interfaces flashes for a better identification.

## Rescan for devices

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If you click at the **Rescan for devices** button MADRIX closes all devices and searches for new devices again.

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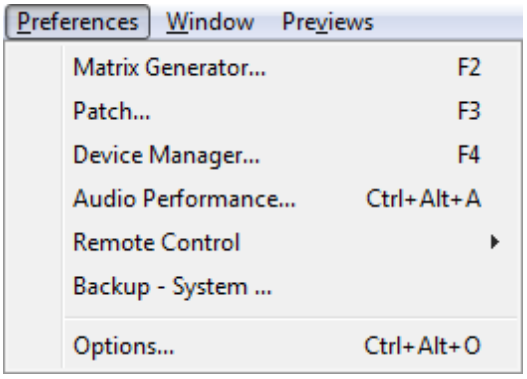
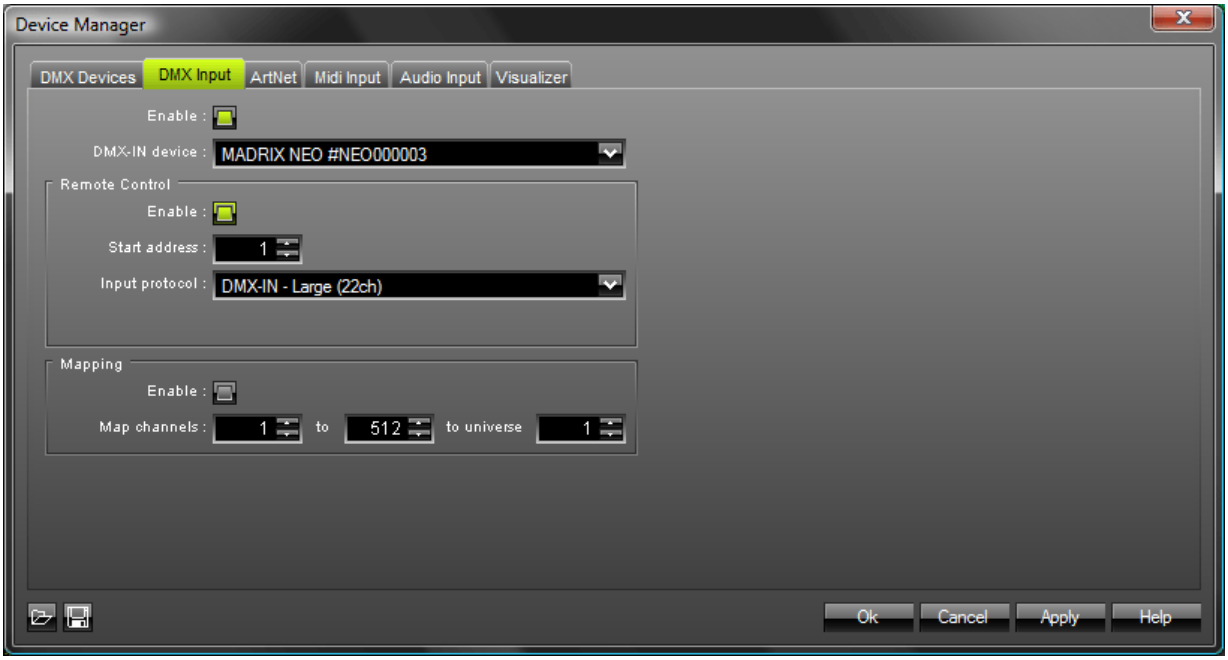
# Part X

# 10 DMX-IN, ArtNet remote, remote HTTP, MIDI IN, MTC

MADRIX can be remote controlled by a DMX-In and ArtNet device. You can control storage places and you are able to do cross fading and much more.




For administrating the DMX-IN devices, please click inside the menu **Preferences** the entry **Device Manager**. A window is being displayed, in which you can change the settings in DMX Input.

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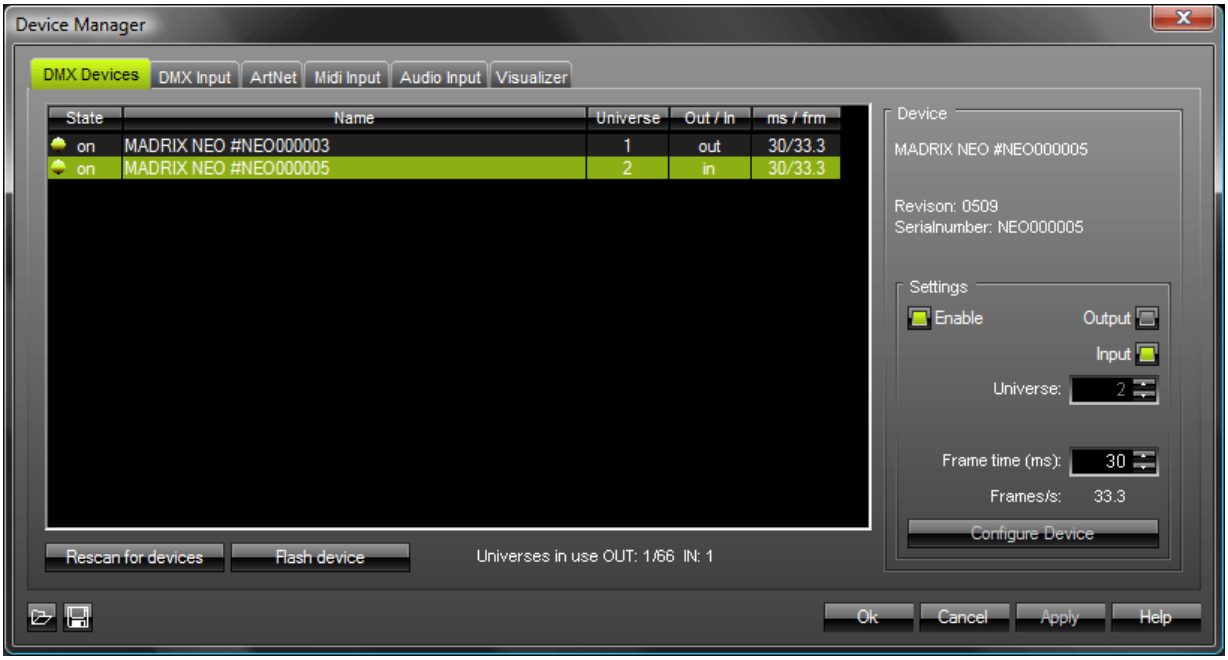
Please **activate the DMX Input** device by clicking Enable. Inside the DMX-IN device drop down list you select the DMX input device, which you want to use for sending DMX data to MADRIX. Set up the starting address with **Start address** and decide which **protocol** you would like to use. Those protocols will be explained more in detail here.

## 10.1 DMX-IN and ArtNet remote

For administrating the DMX-IN devices, please click inside the menu **Preferences** the entry **Device Manager**. A window is being displayed, in which you can change the settings in DMX Input.

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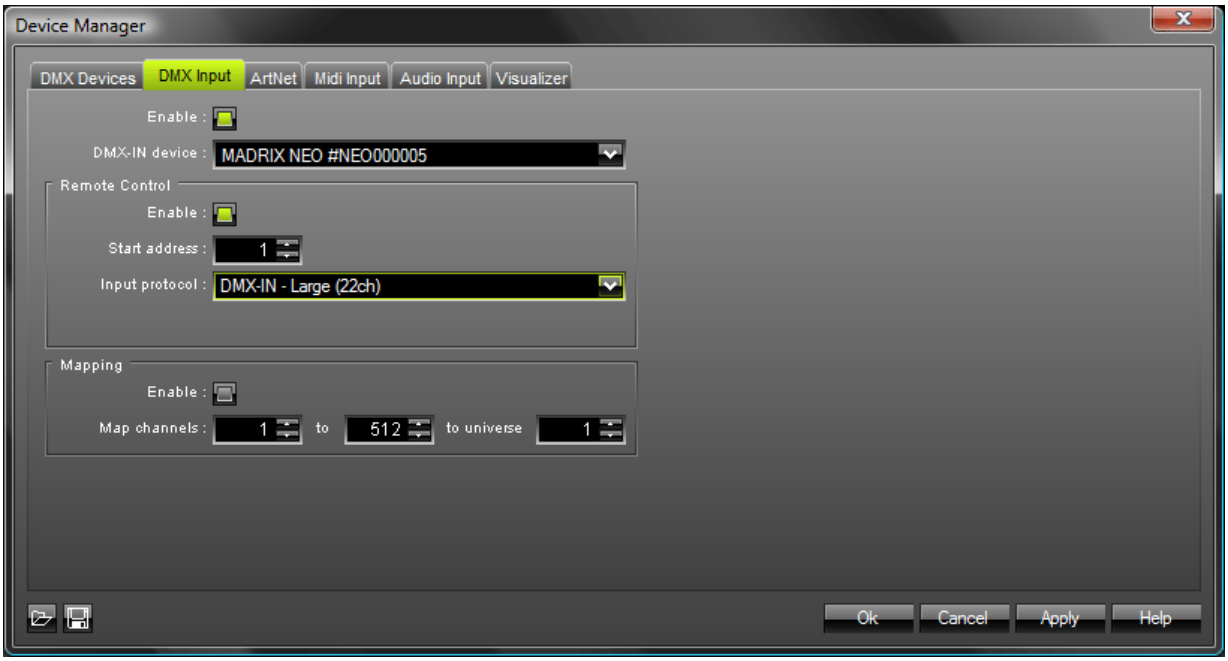


Please **activate the DMX Input** device by clicking Enable. Inside the DMX-IN device drop down list you select the DMX input device, which you want to use for sending DMX data to MADRIX. Set up the start address with the input fields at Start address.

## ArtNet Remote

Please setup your network card to the following ArtNet address area:

- **2.0.0.1 ... 2.255.255.254**

- **10.0.0.1 ... 10.255.255.254**

**You must use this address area. Otherwise ArtNet may not working fine.**

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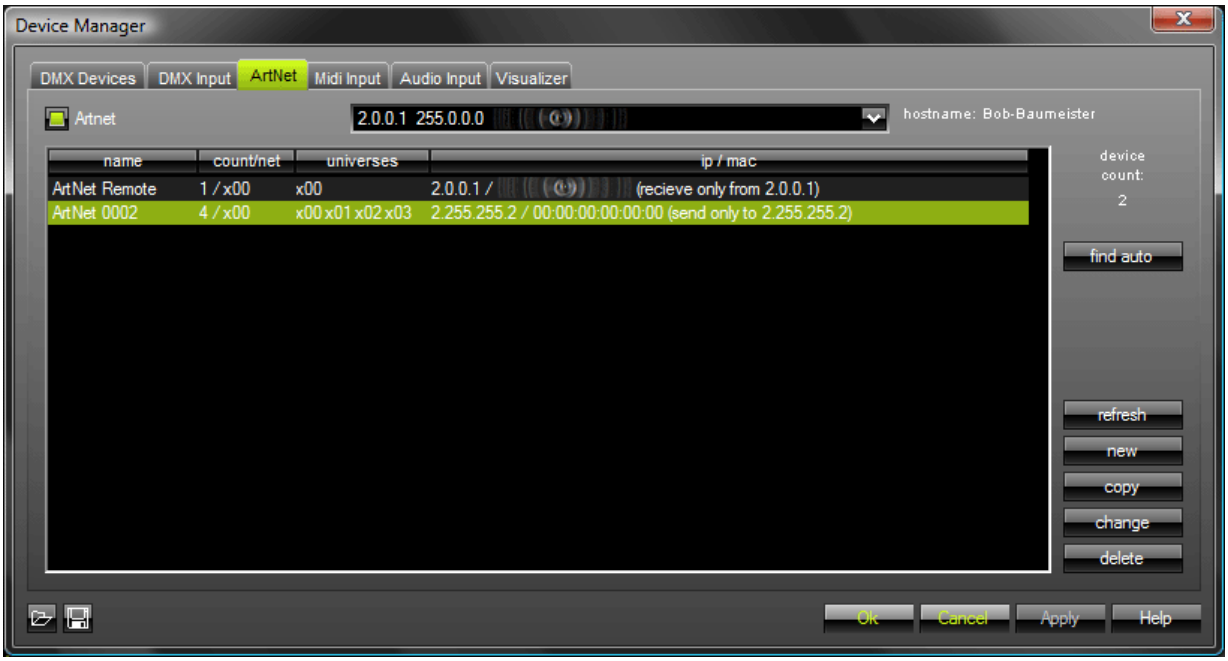


If you have enabled the ArtNet support inside this dialog you will se at least on entry. The ArtNet remote entry is served by MADRIX and you can use this for remote controlling MADRIX inside the ArtNet network. Now you can change this interface:

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manufacturer : inoage
product : Madrix V2.00
short name : ArtNet Remote
long name : ArtNet Remote, to remote control MADRIX via ArtNet
port count : 1 0x1
sub net : 0 0x00
state : enable
port out 1-4 : 0 0x00
port in 1-4 :
mac :
style code : node
recieve broadcast : recieve only from address 2.0.0.7 and univers 0x0
ip : 2 . 0 . 0 . 7
subnet : 255 . 0 . 0 . 0
port : 6454 0x1936
OK
Apply
Cancel

Inside this dialog you can modify the Universe for remote controlling MADRIX. If you activate the receive broadcast option e.g. a light desk can send data to MADRIX. If this option is not checked only e.g. a lighting desk with the IP you have set inside the ip input can remote control MADRIX.

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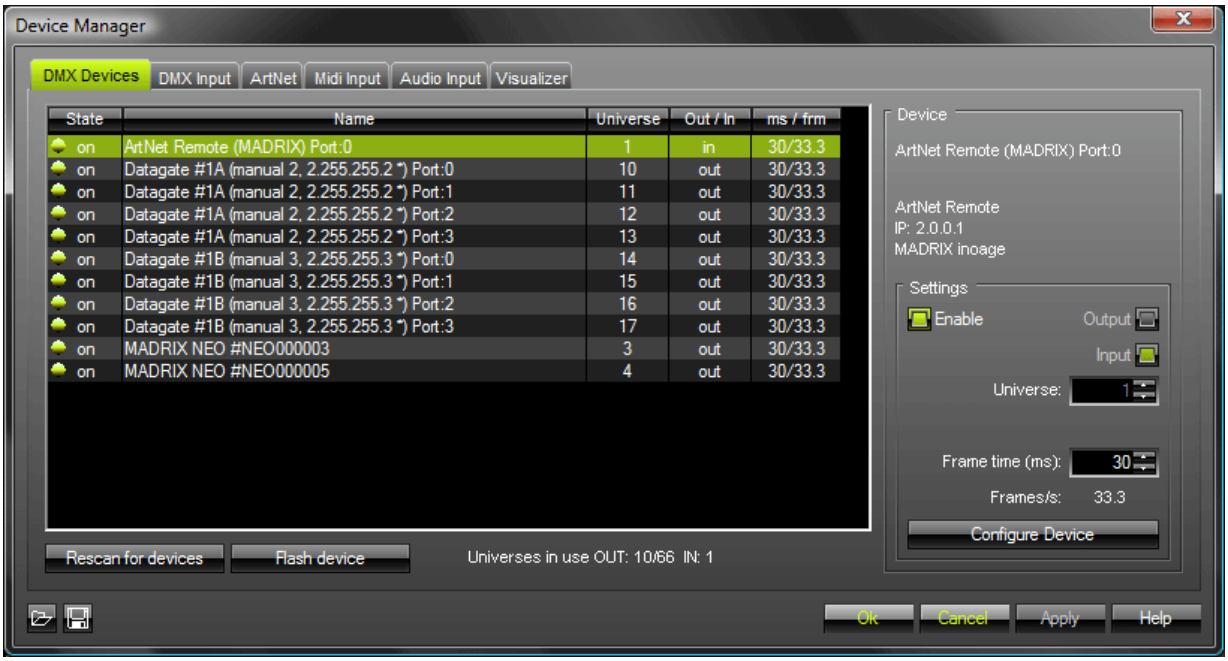
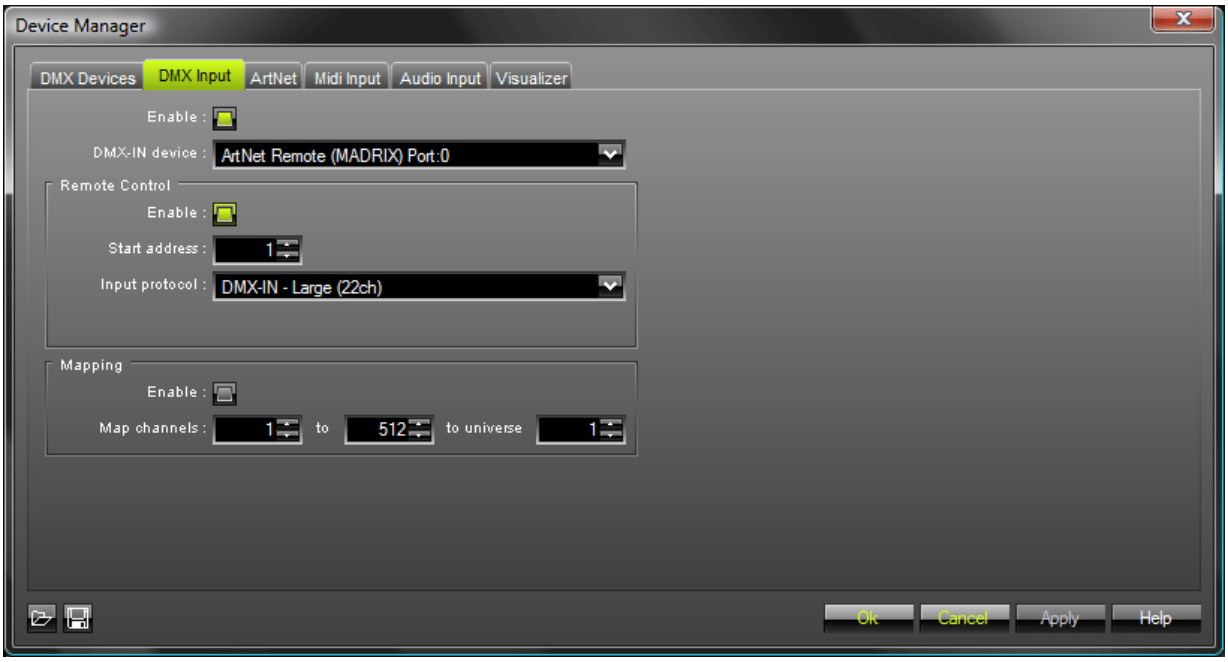



Please press Rescan for devices inside this dialog and Enable this device.




You must enable this entry inside the DMX-Input tab if you want to use this for remote controlling MADRIX.

After you have set up your DMX-IN device please press the OK button.

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### 10.1.1 The DMX-IN - Micro Protocol

| DMX-Channel | Value | Function |
|---|---|---|
| 1 | 0 - 127 (0-49%)<br>128 - 255 (50-100%) | Storages A 1 - 60,<br>Storages B 1 – 60 |
| 2 | 0 - 100% (0-10sec default value) | Set up the Fade time in percent |
| 3 | 0 - 255 | Set up the MasterFader |

### 10.1.2 The DMX-IN - Mini Protocol

| DMX-Channel | Value | Function |
|---|---|---|
| 1 | 0 - 127 (0-49%)<br>128 - 255 (50-100%) | Storages A 1 - 60,<br>Storages B 1 – 60 |
| 2 | 0 – 63<br>64 – 127<br>128 – 192<br>192 - 255 | CrossFade<br>WhiteFade<br>BlackFade<br>ColorFade |
| 3 | 0 - 100%<br>(0-10sec default value) | Set up the Fade time in percent |
| 4<br>5<br>6<br>7 | <br>0 - 255<br>0 - 255<br>0 - 255<br>0 - 255 | Set up the color for ColorFade<br>Red<br>Green<br>Blue<br>White |
| 8 | 0 - 255 | Set up the MasterFader |

### 10.1.3 The DMX-IN - Small Protocol

| DMX-Channel | Value | Function |
|---|---|---|
| 1 | 0 – 240 | Storage A Place 1 – 60 (Steps of 4) |
| 2 | 0 – 240 | Storage B Place 1 – 60 (Steps of 4) |
| 3 | 0 – 63<br>64 – 127<br>128 – 191<br>192 – 255 | CF – Cross Fade<br>WF – White Fade<br>BF – Black Fade<br>CF – Color Fade |
| 4 | 0 – 255 | Fade Value (Position of the Fade Slider) |
| 5 | 0 – 255 | Fade Time in Seconds |
| 6 | 0 – 255 | Fade Time in 1/100 Seconds |
| 7 | 0/255 | Auto Fade |
| 8 | 0 – 255 | CF Fade Color R |
| 9 | 0 – 255 | CF Fade Color G |
| 10 | 0 – 255 | CF Fade Color B |

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| | | |
|---|---|---|
| 11 | 0 – 255 | CF Fade Color W |
| 12 | 0 - 255 | set up the MasterFader |

### 10.1.4 The DMX-IN - Large Protocol

| DMX-Channel | Value | Function |
|---|---|---|
| 1 | 0 – 5<br>6 – 30<br>31 – 55<br>56 – 80<br>81- 105<br>106 – 130<br>131 –155<br>156 – 180<br>181 – 205<br>206 – 230<br>231 – 255 | No Function<br>Storage A Place 1<br>Storage A Place 2<br>Storage A Place 3<br>Storage A Place 4<br>Storage A Place 5<br>Storage A Place 6<br>Storage A Place 7<br>Storage A Place 8<br>Storage A Place 9<br>Storage A Place 10 |
| 2 | 0 – 5<br>6 – 30<br>31 – 55<br>56 – 80<br>81- 105<br>106 – 130<br>131 –155<br>156 – 180<br>181 – 205<br>206 – 230<br>231 – 255 | No Function<br>Storage A Place 11<br>Storage A Place 12<br>Storage A Place 13<br>Storage A Place 14<br>Storage A Place 15<br>Storage A Place 16<br>Storage A Place 17<br>Storage A Place 18<br>Storage A Place 19<br>Storage A Place 20 |
| 3 | 0 – 5<br>6 – 30<br>31 – 55<br>56 – 80<br>81- 105<br>106 – 130<br>131 –155<br>156 – 180<br>181 – 205<br>206 – 230<br>231 – 255 | No Function<br>Storage A Place 21<br>Storage A Place 22<br>Storage A Place 23<br>Storage A Place 24<br>Storage A Place 25<br>Storage A Place 26<br>Storage A Place 27<br>Storage A Place 28<br>Storage A Place 29<br>Storage A Place 30 |
| 4 | 0 – 5<br>6 – 30<br>31 – 55<br>56 – 80<br>81- 105<br>106 – 130<br>131 –155<br>156 – 180<br>181 – 205<br>206 – 230<br>231 – 255 | No Function<br>Storage A Place 31<br>Storage A Place 32<br>Storage A Place 33<br>Storage A Place 34<br>Storage A Place 35<br>Storage A Place 36<br>Storage A Place 37<br>Storage A Place 38<br>Storage A Place 39<br>Storage A Place 40 |
| 5 | 0 – 5<br>6 – 30 | No Function<br>Storage A Place 41 |

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| | | |
|---|---|---|
| | 31 – 55 | Storage A Place 42 |
| | 56 – 80 | Storage A Place 43 |
| | 81- 105 | Storage A Place 44 |
| | 106 – 130 | Storage A Place 45 |
| | 131 –155 | Storage A Place 46 |
| | 156 – 180 | Storage A Place 47 |
| | 181 – 205 | Storage A Place 48 |
| | 206 – 230 | Storage A Place 49 |
| | 231 – 255 | Storage A Place 50 |
| 6 | 0 – 5 | No Function |
| | 6 – 30 | Storage A Place 51 |
| | 31 – 55 | Storage A Place 52 |
| | 56 – 80 | Storage A Place 53 |
| | 81- 105 | Storage A Place 54 |
| | 106 – 130 | Storage A Place 55 |
| | 131 –155 | Storage A Place 56 |
| | 156 – 180 | Storage A Place 57 |
| | 181 – 205 | Storage A Place 58 |
| | 206 – 230 | Storage A Place 59 |
| | 231 – 255 | Storage A Place 60 |
| 7 | 0 – 5 | No Function |
| | 6 – 30 | Storage B Place 1 |
| | 31 – 55 | Storage B Place 2 |
| | 56 – 80 | Storage B Place 3 |
| | 81- 105 | Storage B Place 4 |
| | 106 – 130 | Storage B Place 5 |
| | 131 –155 | Storage B Place 6 |
| | 156 – 180 | Storage B Place 7 |
| | 181 – 205 | Storage B Place 8 |
| | 206 – 230 | Storage B Place 9 |
| | 231 – 255 | Storage B Place 10 |
| 8 | 0 – 5 | No Function |
| | 6 – 30 | Storage B Place 11 |
| | 31 – 55 | Storage B Place 12 |
| | 56 – 80 | Storage B Place 13 |
| | 81- 105 | Storage B Place 14 |
| | 106 – 130 | Storage B Place 15 |
| | 131 –155 | Storage B Place 16 |
| | 156 – 180 | Storage B Place 17 |
| | 181 – 205 | Storage B Place 18 |
| | 206 – 230 | Storage B Place 19 |
| | 231 – 255 | Storage B Place 20 |
| 9 | 0 – 5 | No Function |
| | 6 – 30 | Storage B Place 21 |
| | 31 – 55 | Storage B Place 22 |
| | 56 – 80 | Storage B Place 23 |
| | 81- 105 | Storage B Place 24 |
| | 106 – 130 | Storage B Place 25 |
| | 131 –155 | Storage B Place 26 |
| | 156 – 180 | Storage B Place 27 |
| | 181 – 205 | Storage B Place 28 |
| | 206 – 230 | Storage B Place 29 |
| | 231 – 255 | Storage B Place 30 |
| 10 | 0 – 5 | No Function |
| | 6 – 30 | Storage B Place 31 |
| | 31 – 55 | Storage B Place 32 |
| | 56 – 80 | Storage B Place 33 |
| | 81- 105 | Storage B Place 34 |
| | 106 – 130 | Storage B Place 35 |
| | 131 –155 | Storage B Place 36 |
| | 156 – 180 | Storage B Place 37 |
| | 181 – 205 | Storage B Place 38 |

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| | | |
|---|---|---|
| | 206 – 230<br>231 – 255 | Storage B Place 39<br>Storage B Place 40 |
| 11 | 0 – 5<br>6 – 30<br>31 – 55<br>56 – 80<br>81- 105<br>106 – 130<br>131 –155<br>156 – 180<br>181 – 205<br>206 – 230<br>231 – 255 | No Function<br>Storage B Place 41<br>Storage B Place 42<br>Storage B Place 43<br>Storage B Place 44<br>Storage B Place 45<br>Storage B Place 46<br>Storage B Place 47<br>Storage B Place 48<br>Storage B Place 49<br>Storage B Place 50 |
| 12 | 0 – 5<br>6 – 30<br>31 – 55<br>56 – 80<br>81- 105<br>106 – 130<br>131 –155<br>156 – 180<br>181 – 205<br>206 – 230<br>231 – 255 | No Function<br>Storage B Place 51<br>Storage B Place 52<br>Storage B Place 53<br>Storage B Place 54<br>Storage B Place 55<br>Storage B Place 56<br>Storage B Place 57<br>Storage B Place 58<br>Storage B Place 59<br>Storage B Place 60 |
| 13 | 0 – 63<br>64 – 127<br>128 – 191<br>192 – 255 | CF – Cross Fade<br>WF – White Fade<br>BF – Black Fade<br>CF – Color Fade |
| 14 | 0 – 255 | Fade Value (Position of the Fade Slider) |
| 15 | 0 – 255 | Fade Time in Seconds |
| 16 | 0 – 255 | Fade Time in 1/100 Seconds |
| 17 | 0/255 | Auto Fade |
| 18 | 0 – 255 | CF Fade Color R |
| 19 | 0 – 255 | CF Fade Color G |
| 20 | 0 – 255 | CF Fade Color B |
| 21 | 0 – 255 | CF Fade Color W |
| 22 | 0 - 255 | Set up the MasterFader |

## Please mind the following with the DMX - settings 1 to 6 and 7 to 12:

These DMX channels control the storage spaces Storage A and Storage B. Please send only on one of the DMX channels 1 to 6 the DMX signals to change the storages. The same applies to the DMX channels 7 to 12.

## Example 1

**You want to request from Storage A the storage space 17:**

| DMX-Channel | value |
|---|---|
| 1 | 0 |
| 2 | 156-180 |
| 3 | 0 |

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| | |
|---|---|
| 4 | 0 |
| 5 | 0 |
| 6 | 0 |

### Example 2

**You want to request from Storage B the storage space 43**

| DMX-Channel | value |
|---|---|
| 7 | 0 |
| 8 | 0 |
| 9 | 0 |
| 10 | 0 |
| 11 | 56-80 |
| 12 | 0 |

**In practice:**
After setting up the first storage with a fader you can select a new storage with a second fader on the mixer. That will only be adopted, if the first fader is set to 0.

## 10.2 MIDI Remote Control

Connect MADRIX to a MIDI VJ/DJ console and you can remote control MADRIX using MIDI IN function. Click inside the menu **Preferences** at **Remote Control** and **Midi**. A new dialog will be opened.

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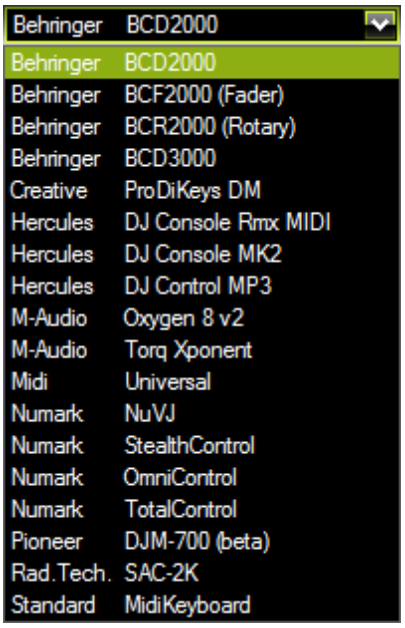
Please check first if you have a sound card with a MIDI / Joystick connector or if you have a USB VJ/DJ console the connection between your PC and your VJ/ DJ MIDI console. If MADRIX cant start the Remote control service please activate the switch **Add to Midi Watcher** and after that click the button **Open Midi Watcher** and check the Watcher for errors.

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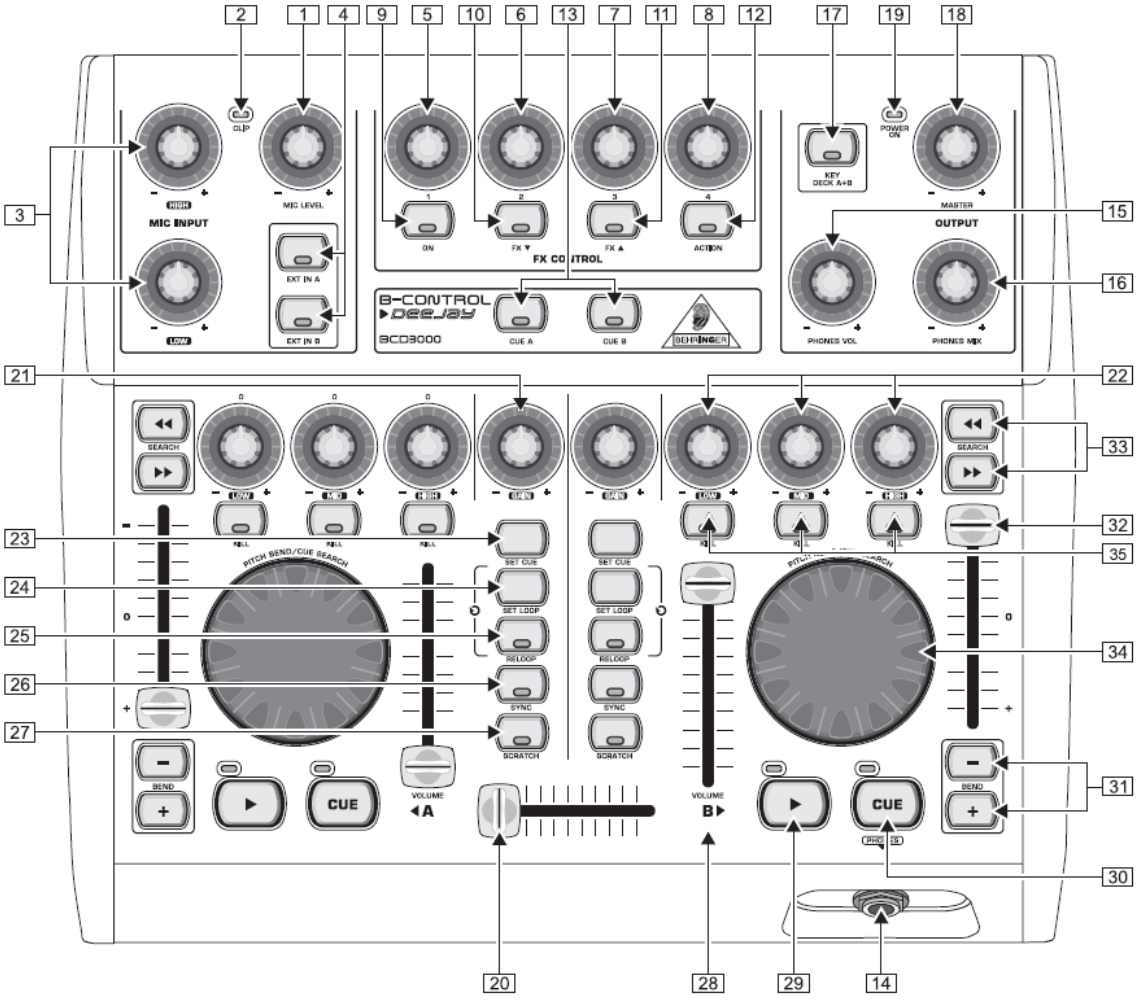
Now you can activate the switch **Enable** inside the area **Remote Control.** After that select your MIDI device from the List.

### 10.2.1 Behringer BCD 3000 and BCD 2000




| | | |
|---|---|---|
| [1] No MIDI function | [16] FREE | **[31] Layer Up / Down** |
| [2] FREE | **[17] Autofade** | **[32] storage speed (Speedmaster)** |

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| | | |
|---|---|---|
| [3] No MIDI function | [18] No MIDI function | **[33] Storage place UP / DOWN** |
| **[4] Cuelist open / close** | [19] POWER LED / NO MIDI function | **[34] + [35] Submaster Storage** |
| **[5] Colorfade color red** | **[20] Crossfader** | **[34] + [35] Submaster Layer** |
| **[6] Colorfade color green** | **[21] Fade time** | **[34] + [35] Opacity Layer** |
| **[7] Colorfade color blue** | [22] FREE | |
| **[8] Colorfade color white** | **[23] GO / Back Cuelist** | |
| **[9] Fadetype XF Cross fade** | **[24] Play / Stop Cuelist** | |
| **[10] Fadetype WF White fade** | **[25] Layer Mix mode up** | |
| **[11] Fadetype BF Black fade** | **[26] Layer Mix mode down** | |
| **[12] Fadetype CF Color fade** | **[27] Cross fader Skip A / Skip B** | |
| [13] FREE | **[28] MASTER or Audio Level fader** | |
| [14] FREE | **[29] Audio or Cuelist Play/ Stop** | |
| [15] No MIDI function | **[30] Add Storage place to Cuelist** | |

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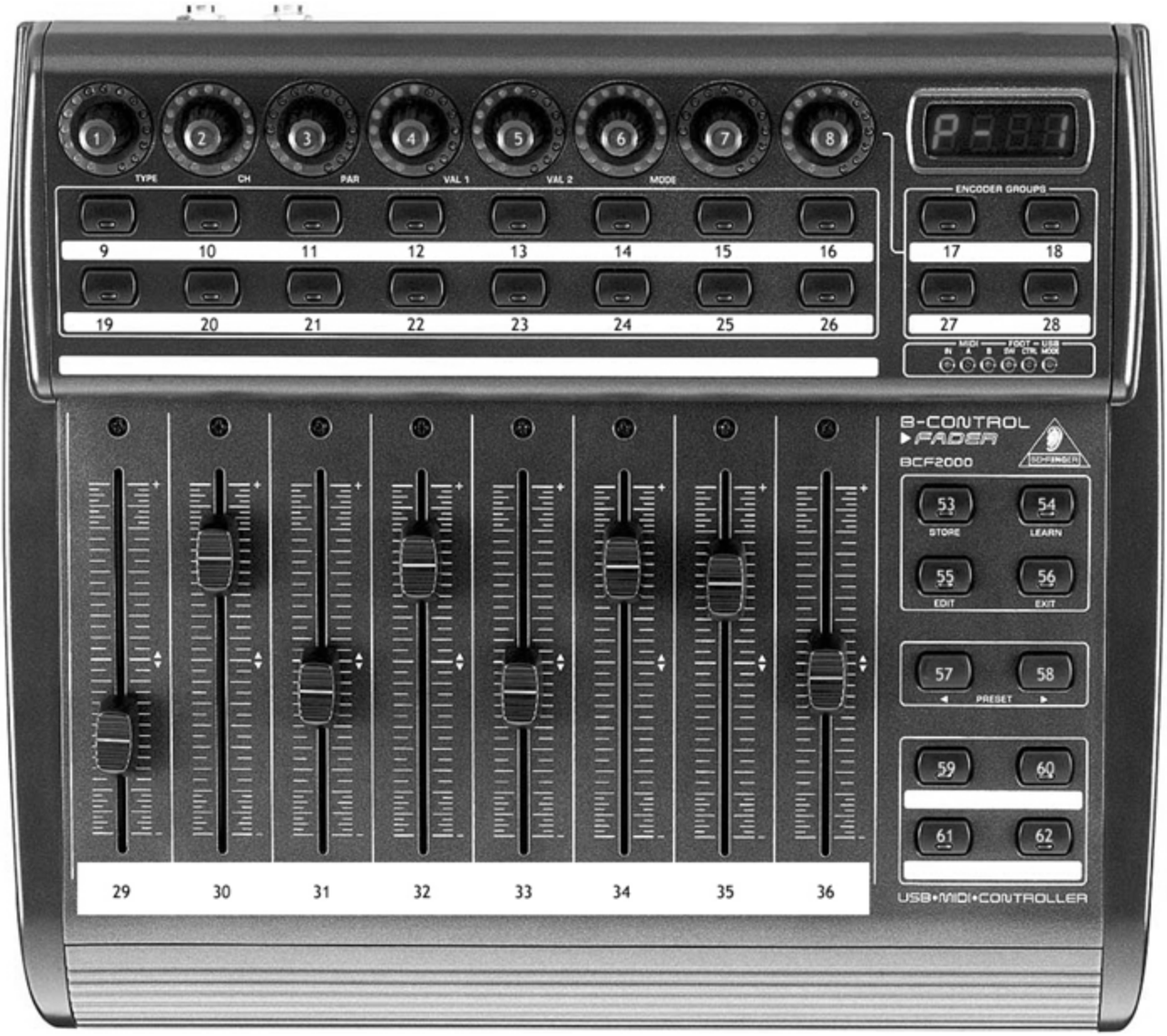
## 10.2.2 Behringer BCF2000




| | |
|---|---|
| **[1] Colorfade color red** | **[24] Pause storage speed B** |
| **[2] Colorfade color green** | **[29] Crossfader position** |
| **[3] Colorfade color blue** | **[30] Storage place UP / DOWN A** |

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| | |
|---|---|
| **[4] Colorfade color white** | **[31] Storage speed (Speedmaster) A** |
| **[8] Fade time** | **[32] Masterfader** |
| **[11] Reset storage speed A** | **[33] Audio level** |
| **[14] Reset storage speed B** | **[34] Storage speed (Speedmaster) B** |
| **[21] Pause storage speed A** | **[35] Storage place UP / DOWN B** |

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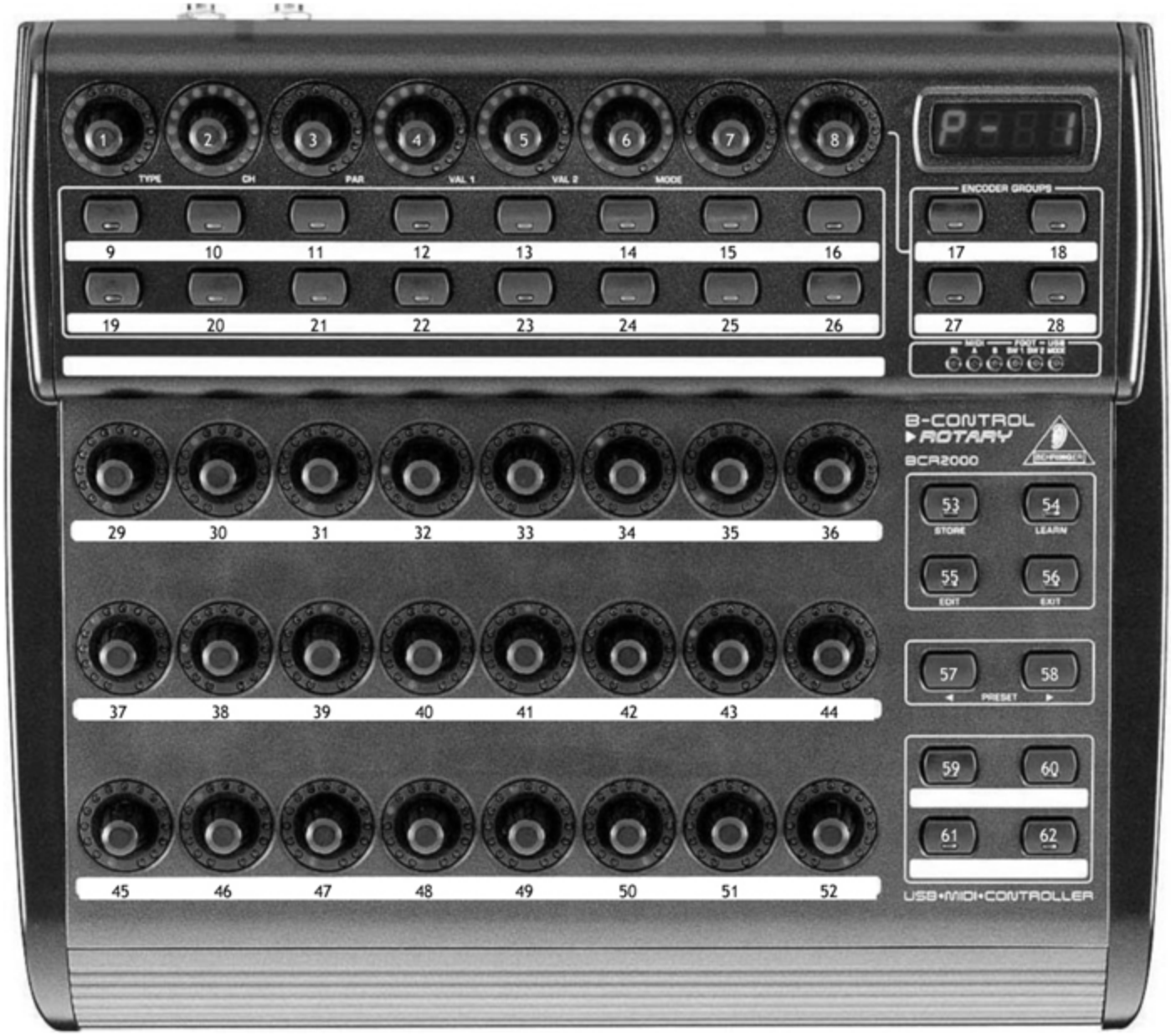
### 10.2.3 Behringer BCR2000




| | |
|---|---|
| **[1] Colorfade color red** | **[24] Pause storage speed B** |
| **[2] Colorfade color green** | **[29] Crossfader position** |
| **[3] Colorfade color blue** | **[30] Storage place UP / DOWN A** |

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| | |
|---|---|
| [4] Colorfade color white | [31] Storage speed (Speedmaster) A |
| [8] Fade time | [32] Masterfader |
| [11] Reset storage speed A | [33] Audio level |
| [14] Reset storage speed B | [34] Storage speed (Speedmaster) B |
| [21] Pause storage speed A | [35] Storage place UP / DOWN B |

### 10.2.4 Creative Prodikeys PC-MIDI

| | |
|---|---|
| [1] Cuelist Back (MIDI note #53) | [8 ... 17] Storage place A 1 ... 10 |
| [2] Cuelist Play/Stop | [18] + [8 ... 17] Storage place A 11 ... 20 |
| [3] Cuelist Go | [19] + [8 ... 17] Storage place A 21 ... 30 |
| | [18]+ [19] + [8 ... 17] Storage place A 31 ... 40 |

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| | |
|---|---|
| **[4] Storage place A down** | |
| **[5] Storage place A up** | **[20 ... 29] Storage place B 1 ... 10** |
| **[6] Storage place B down** | **[30] + [20 ... 29] Storage place B 11 ... 20** |
| **[7] Storage place B up** | **[31] + [20 ... 29] Storage place B 21 ... 30** |
| | **[30]+ [31] + [20 ... 29] Storage place B 31 ... 40** |
| **[32] Skip A** | |
| **[33] Autofade** | **[35] Fade type down** |
| **[34] Skip B** | **[36] Fade type up** |
| | |
| | **[37] Cuelist Back ... look at [1]** (MIDI note #89) |
| | **[38] Audio ON / OFF** (Sustain at MIDI-Keyboards) |

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### 10.2.5 Hercules DJ Control MP3 and Hercules DJ Console MK2

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| | | |
|---|---|---|
| **[1] + [40] Submaster Storage A** | **[16] Audio Play / Stop** | **[31] Autofade** |
| **[2] + [40] Submaster Layer A** | **[17] Add Storage place B to Cuelist** | **[32] Colorfade color white** |
| **[3] + [40] Opacity Layer A** | **[18] Layer A Down** | **[33] Audio level** |
| **[4] + [41] Submaster Storage B** | **[19] Layer A Up** | **[34] Fade time** |
| **[5] + [41] Submaster Layer B** | **[20] Layer B Down** | **[35] Storage place A Up / Down** |
| **[6] + [41] Opacity Layer B** | **[21] Layer B Up** | **[36] Colorfade color blue** |
| **[7] Fadetype Down** | **[22] Mix mode Layer A Down** | **[37] Colorfade color green** |

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| | | |
|---|---|---|
| [8] Fadetype Up | [23] Mix mode Layer A Up | [38] Colorfade color red |
| [9] Back in Cuelist | [24] Mix mode Layer B Down | [39] Storage place B Up / Down |
| [10] GO in Cuelist | [25] Mix mode Layer B Up | [40] look at [1], [2], [3] |
| [11 + 40] Fast Forward / Rewind A | [26] Left Mouse button | [41] look at [4], [5], [6] |
| [12 + 41] Fast Forward / Rewind B | [27] Right Mouse button | [42] Mouse control |
| [13] Crossfader | [28] Speedmaster A | |
| [14] Cuelist Play / Stop | [29] Speedmaster B | |
| [15] Add Storage place A to Cuelist | [30 + 40] Masterfader | |

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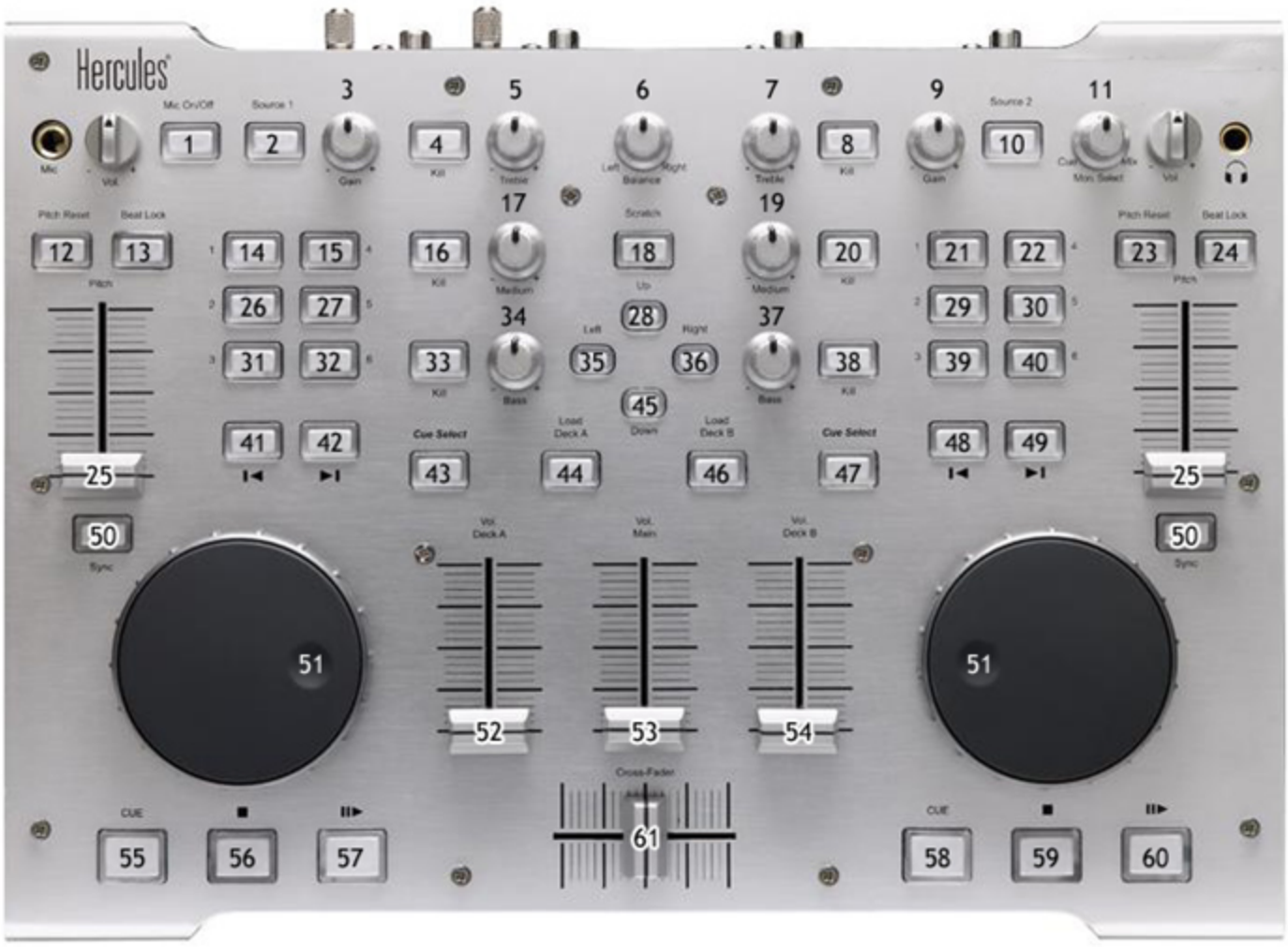
## 10.2.6 Hercules DJ Console Rmx




| | | |
|---|---|---|
| **[1] Cuelist Open / Close** | **[21 hold + 51] Storage Submaster B** | **[41] Storage Place A down** |
| [2] FREE | [22] FREE | **[42] Storage Place A up** |
| **[3] Storage Place A up / down** | **[23] Reset Speedmaster B to default value** | **[43] back in Cuelist** |
| **[4] Mix mode Storage A up** | **[24 + HOLD] Pause Speedmaster B** | **[44] Skip Crossfader to A** |
| **[5] Colorfade color red** | **[25] Speedmaster A / B** | **[45] Fade type down** |
| **[6] Fade time** | **[26 hold + 51] Layer Submaster A** | **[46] Skip Crossfader to B** |

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| | | |
|---|---|---|
| **[7] Colorfade color white** | [27] FREE | **[47] GO in Cuelist** |
| **[8] Mix mode Storage B up** | **[28] Fade type up** | **[48] Storage Place B down** |
| **[9] Storage Place B up / down** | **[29 hold + 51] Layer Submaster B** | **[49] Storage Place B up** |
| [10] FREE | [30] FREE | **[50 hold + 51] Fast Forward / Rewind A/B** |
| [11] FREE | **[31 hold + 51] Opacity Layer A** | **[51] look at [14] [21] [26] [29] [31] [39]** |
| **[12] Reset Speedmaster A to default value** | [32] FREE | [52] FREE |
| **[13 + HOLD] Pause Speedmaster A** | [33] FREE | **[53] Masterfader** |
| **[14 hold + 51] Storage Submaster A** | **[34] Colorfade color blue** | **[54] Audio level** |
| [15] FREE | **[35] Fade type down** | **[55] add Storage Place A to Cuelist** |
| **[16] Mix mode Storage A down** | **[36] Fade type up** | **[56] Cuelist Stop** |
| **[17] Colorfade color green** | [37] FREE | **[57] Cuelist Play / Stop** |
| **[18] Autofade** | [38] FREE | **[58] add Storage Place B to Cuelist** |
| [19] FREE | **[39 hold + 51] Opacity Layer B** | **[59] Stop Audio Capture** |
| **[20] Mix mode Storage B down** | [40] FREE | **[60] Start / Stop Audio Capture** |
| | | **[61] Crossfader** |

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## 10.2.7 M-AUDIO Oxygen 8 v2

**Please take care that you activate Preset 1 (General MIDI) and c 01 with button [6].**

| | | |
|---|---|---|
| **[1] UP Autofade enabled (default) / DOWN disabled** | **[23] Storage Place A1 (If Octave -4)** | **[35] Storage Place B1 (If Octave -4)** |
| **[2] Masterfader** | **[24] Storage Place A2 (If Octave -4)** | **[36] Storage Place B2 (If Octave -4)** |
| **[3] Switch Storage Place Area (Octaves)** | **[25] Storage Place A3 (If Octave -4)** | **[37] Storage Place B3 (If Octave -4)** |
| [4] No MIDI function | **[26] Storage Place A4 (If Octave -4)** | **[38] Storage Place B4 (If Octave -4)** |
| [5] No MIDI function | **[27] Storage Place A5 (If Octave -4)** | **[39] Storage Place B5 (If Octave -4)** |
| [6] No MIDI function | **[28] Storage Place A6 (If Octave -4)** | **[40] Storage Place B6 (If Octave -4)** |
| [7] FREE | **[29] Storage Place A7 (If Octave -4)** | **[41] Storage Place B7 (If Octave -4)** |

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| | | |
|---|---|---|
| [8] FREE | **[30] Storage Place A8 (If Octave -4)** | **[42] Storage Place B8 (If Octave -4)** |
| **[9] CF Color fade – Color Red** | **[31] Storage Place A9 (If Octave -4)** | **[43] Storage Place B9 (If Octave -4)** |
| **[10] CF Color fade – Color Green** | **[32] Storage Place A10 (If Octave -4)** | **[44] Storage Place B10 (If Octave -4)** |
| **[11] CF Color fade – Color Blue** | **[33] Storage Place A11 (If Octave -4)** | **[45] Storage Place B11 (If Octave -4)** |
| **[12] Audio level fader** | **[34] Storage Place A12 (If Octave -4)** | **[46] Storage Place B12 (If Octave -4)** |
| **[13] Crossfader** | | |
| **[14] Speedmaster A** | **[23] Storage Place A13 (If Octave -2)** | **[35] Storage Place B13 (If Octave -2)** |
| **[15] Speedmaster B** | **…** | **…** |
| **[16] Fade Time** | **[34] Storage Place A24 (If Octave -2)** | **[46] Storage Place B24 (If Octave -2)** |
| **[17] Freeze Output** | | |
| **[18] Cuelist Back** | **… select the Octave with [3]** | **… select the Octave with [3]** |
| **[19] Cuelist Go** | | |
| **[20] Cuelist Stop** | | **[47] Autofade (If Octave 5)** |
| **[21] Fade type toggle** | | |
| **[22] Skip A / Skip B** | | |

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## 10.2.8 M-AUDIO Torq Xponent

| | | |
|---|---|---|
| [3] Skip A | [27] Autofade | [61] Play / Stop Cuelist |
| [4] Skip B | [28] Autofade | [62] Add storage place A to Cuelist |
| [9] Colorfade color white | [29] Freeze Output | [63] Storage place A Down |
| [10] Colorfade color blue | [30] Audio ON / OFF | [64] Storage place A UP |
| [11] Colorfade color green | [31] look at [33], [34], [35], [36] | [65] Play / Stop Cuelist |
| [12] Colorfade color red | [32] look at [37], [37], [39], [40] | [66] Add storage place B to Cuelist |
| [13] Fade time | [33] + [31] Storage Submaster A | [67] Storage place B Down |
| [19] Fade type Color fade | [34] + [31] Layer Opacity A | [68] Storage place B Up |
| [20] Fade type Black fade | [35] + [31] Layer Mixmode A | [69] Speedmaster A |

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| | | |
|---|---|---|
| **[21] Fade type White fade** | **[36] + [31] Layer Submaster A** | **[70] Speedmaster B** |
| **[22] Fade type Cross fade** | **[37] + [32] Storage Submaster B** | **[71] Cuelist Go** |
| [23] Switch USB or MIDI | **[38] + [32] Layer Opacity B** | **[72] Cuelist Back** |
| **[24] Master fader** | **[39] + [32] Layer Mixmode B** | **[73] Cuelist Open / Close** |
| **[25] Audio level** | **[40] + [32] Layer Submaster B** | **[74] Cuelist Go** |
| **[26] Crossfader** | **[41] Layer A Down** | **[75] Cuelist Back** |
| | **[42] Layer A Up** | **[76] Cuelist Open / Close** |
| | **[43] Layer B Down** | |
| | **[44] Layer B Up** | |

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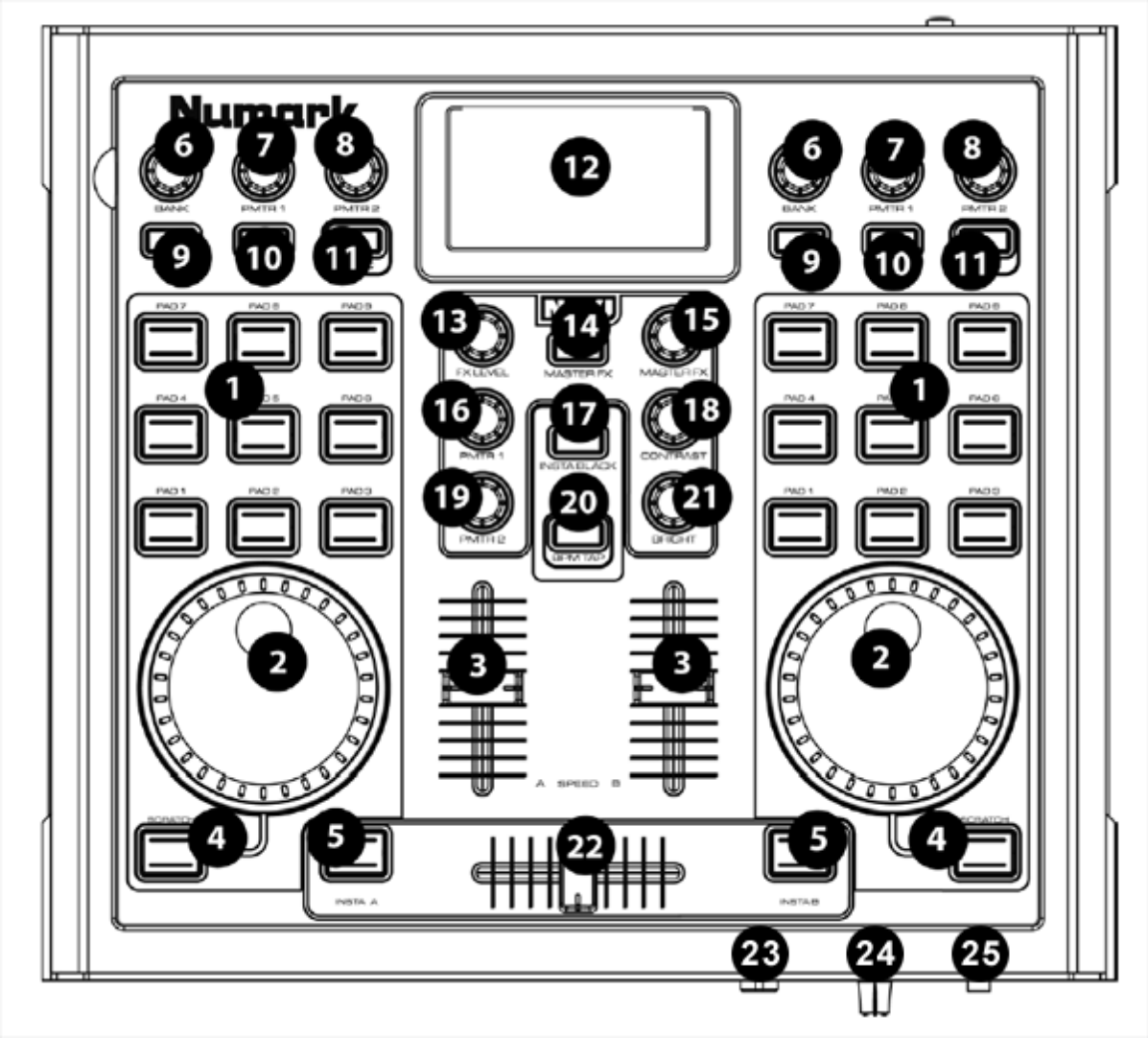
## 10.2.9 Numark NuVJ




| [9] Switch Layer / Storage mode | |
|---|---|
| LAYER MODE | STORAGE MODE |
| [1] Direct access for Layer 1 - 9 | [1] Direct access for Storage place 1 - 9 |
| [2] + [4] Skip Layer Up / Down | [2 + 4 hold] fast forward / fast rewind |
| | [4] Pause ON / OFF |

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| | |
|---|---|
| [6] Mix mode Layer Up / Down | [6] Storage place Up / Down |
| [6] + [Pressed] Set Mix mode Layer to normal | [6] + [Pressed] Add Storage place to Cuelist |
| [7] Submaster Layer | [7] Submaster Storage place |
| [8] Opacity Layer | [8] Storage speed |
| [10] Reset Submaster Layer | [10] Reset Submaster Storage place |
| [11] Reset Opacity Layer | [11] Reset Storage speed |
| GLOBAL | |
| [3] Master or Audio level fader | |
| [5] Cuelist Go / Back | |
| [12] NuVJ Dot Matrix Display | |
| [13] Fade Types Up / Down | |
| [14] Cuelist open / close | |
| [15] Colorfade Color red | |
| [17] Cuelist Play / Stop | |
| [18] Colorfade Color green | |
| [19] Colorfade Color white | |
| [20] Autofade | |
| [21] Colorfade Color blue | |
| [22] Crossfader | |
| [24] Fade time | |

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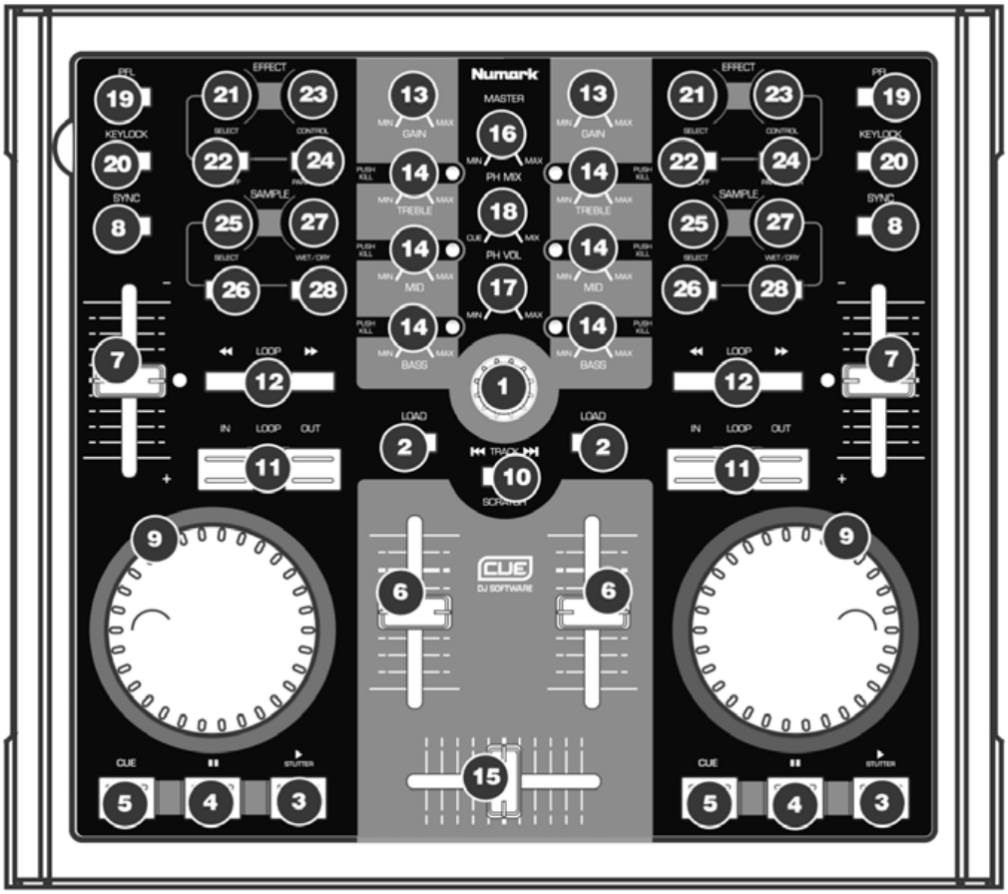
## 10.2.10 Numark Total Control




| | |
|---|---|
| **[1] GO / Back Cuelist** | **[16] Fadetime** |
| **[1] + [PRESSED] Cuelist Play / Stop** | [17] FREE |
| **[2] Fade types DOWN / UP** | [18] FREE |
| **[3] Cuelist or Audio Play/ Stop** | **[19] + [9] Fast Forward and Rewind** |
| **[4] Cuelist open/close and Audio ON/OFF** | **[20] Reset Speedmaster** |
| **[5] Add Storage place to Cuelist** | **[21] Submaster Storage place** |
| **[6] MASTER or Audio Level fader** | **[22] Reset Submaster Storage place** |
| **[7] Speedmaster** | **[23] Layer Mix mode up/down** |

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| | |
|---|---|
| [8] Pause Speedmaster | [24] Reset Layer Mix mode to default |
| [10] Autofade | [25] Submaster Layer |
| [11] Storage place UP / DOWN | [26] Reset Submaster Layer |
| [12] Layer Up / Down | [27] Opacity Layer |
| [13] Colorfade Color red | [28] Reset Opacity Layer |
| [14] Colorfade Color blue, green, white | |
| [15] Crossfader | |

## 10.2.11 Numark Omni Control

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To use the Numark Omni Control please check the MIDI MAP of the Numark Total Control 242.

### 10.2.12 Numark Stealth Control

To use the Numark Stealth Control please check the MIDI MAP of the Numark Total Control 242.

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## 10.2.13 MIDI keyboards

| MIDI note | value | MIDI note | value |
|---|---|---|---|
| #48 | Skip A | #84 | Skip A |
| #49 | Autofade | #85 | Autofade |
| #50 | Skip B | #86 | Skip B |
| #51 | Fade type down | #87 | Fade type down |
| #52 | Fade type up | #88 | Fade type up |
| #53 | Cuelist Back | #89 | Cuelist Back |
| #54 | Cuelist Play/Stop | #90 | Cuelist Play/Stop |
| #55 | Cuelist Go | #91 | Cuelist Go |
| #56 | Storage place A down | #92 | Storage place A down |
| #57 | Storage place A up | #93 | Storage place A up |
| #58 | Storage place B down | #94 | Storage place B down |
| #59 | Storage place B up | #95 | Storage place B up |

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| | | | |
|---|---|---|---|
| | | | |
| #60 ... #69 | Storage place A 1 ... 10 | | |
| #60 ... #69 + #70 | Storage place A 11 ... 20 | | |
| #60 ... #69 + #71 | Storage place A 21 ... 30 | | |
| #60 ... #69 + #70 + #71 | Storage place A 31 ... 40 | | |
| | | | |
| #72 ... #81 | Storage place B 1 ... 10 | | |
| #72 ... #81 + #82 | Storage place B 11 ... 20 | | |
| #72 ... #81 + #83 | Storage place B 21 ... 30 | | |
| #72 ... #81 + #82 + #83 | Storage place B 31 ... 40 | Control Change 0x40<br>(0xB0 0x40 0x00) | Audio ON / OFF |

| Octave # | Note Numbers | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **C** | **C#** | **D** | **D#** | **E** | **F** | **F#** | **G** | **G#** | **A** | **A#** | **B** |
| -1 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 0 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 1 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 |
| 2 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 |
| 3 | **48** | **49** | **50** | **51** | **52** | **53** | **54** | **55** | **56** | **57** | **58** | **59** |
| 4 | **60** | **61** | **62** | **63** | **64** | **65** | **66** | **67** | **68** | **69** | **70** | **71** |
| 5 | **72** | **73** | **74** | **75** | **76** | **77** | **78** | **79** | **80** | **81** | **82** | **83** |
| 6 | **84** | **85** | **86** | **87** | **88** | **89** | **90** | **91** | **92** | **93** | **94** | **95** |

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| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 |
| 8 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 |
| 9 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | | | | |

### 10.2.14 MIDI Universal

#### MIDI Message Type 0xb0 (Controller)

| controller | value |
|---|---|
| #00 | Storage Place A |
| #01 | Storage Place B |
| #02 | Storage Place A and Autofade |
| #03 | Storage Place B and Autofade |
| #04 | Storage Place A UP |
| #05 | Storage Place A DOWN |
| #06 | Storage Place B UP |
| #07 | Storage Place B DOWN |
| #08 | Storage Place A and Autofade UP |
| #09 | Storage Place A and Autofade DOWN |
| #0A | Storage Place B and Autofade UP |
| #0B | Storage Place B and Autofade DOWN |
| #10 | Submaster Storage Place A |

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| | |
|---|---|
| #11 | Submaster Storage Place B |
| #12 | Submaster Storage Place A UP |
| #13 | Submaster Storage Place A DOWN |
| #14 | Submaster Storage Place B UP |
| #15 | Submaster Storage Place B DOWN |
| #20 | Storage Speed A |
| #21 | Storage Speed A UP |
| #22 | Storage Speed A DOWN |
| #23 | Storage Speed A RESET |
| #24 | Storage Speed A PAUSE |
| #25 | Storage Speed A PAUSE HOLD |
| #26 | Storage Speed A PLAY |
| #28 | Storage Speed B |
| #29 | Storage Speed B UP |
| #2A | Storage Speed B Down |
| #2B | Storage Speed B RESET |
| #2C | Storage Speed B PAUSE |
| #2D | Storage Speed B PAUSE HOLD |
| #2E | Storage Speed B PLAY |
| #30 | Storage A FRAME ID UP |

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| | |
|---|---|
| #31 | Storage A FRAME ID DOWN |
| #32 | Storage B FRAME ID UP |
| #33 | Storage B FRAME ID DOWN |
| #3A | Output FREEZE |
| #3B | Output UNFREEZE |
| #3C | Output FREEZE HOLD |
| #40 | Layer A |
| #41 | Layer B |
| #42 | Layer A UP |
| #43 | Layer A DOWN |
| #44 | Layer B UP |
| #45 | Layer B DOWN |
| #50 | Layer Opacity A |
| #51 | Layer Opacity B |
| #52 | Layer Opacity A UP |
| #53 | Layer Opacity A DOWN |
| #54 | Layer Opacity B UP |
| #55 | Layer Opacity B DOWN |
| #60 | Layer Submaster A |
| #61 | Layer Submaster B |

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| | |
|---|---|
| #62 | Layer Submaster A UP |
| #63 | Layer Submaster A DOWN |
| #64 | Layer Submaster B UP |
| #65 | Layer Submaster B DOWN |
| #70 | Layer Mixmode A |
| #71 | Layer Mixmode B |
| #72 | Layer Mixmode A UP |
| #73 | Layer Mixmode A DOWN |
| #74 | Layer Mixmode B UP |
| #75 | Layer Mixmode B DOWN |

## MIDI Message Type 0xb1 (Controller)

| controller | value |
|---|---|
| #00 | Layer A FRAME ID UP |
| #01 | Layer A FRAME ID DOWN |
| #02 | Layer B FRAME ID UP |
| #03 | Layer B FRAME ID DOWN |
| #10 | Fadetime |
| #12 | Autofade |
| #13 | Fade Value |

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| | |
|---|---|
| #14 | Fade Value Step A |
| #15 | Fade Value Step B |
| #16 | Fade Value Skip A |
| #17 | Fade Value Skip B |
| #1A | Masterfader |
| #1B | Masterfader UP |
| #1C | Masterfader Down |
| #20 | Fadetype UP |
| #21 | Fadetype DOWN |
| #22 | Fadetype Crossfade |
| #23 | Fadetype Whitefade |
| #24 | Fadetype Blackfade |
| #25 | Fadetype Colorfade |
| #40 | Fadecolor RED |
| #41 | Fadecolor RED UP |
| #42 | Fadecolor RED DOWN |
| #43 | Fadecolor GREEN |
| #44 | Fadecolor GREEN UP |
| #45 | Fadecolor GREEN DOWN |
| #46 | Fadecolor BLUE |

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| | |
|---|---|
| #47 | Fadecolor BLUE UP |
| #48 | Fadecolor BLUE DOWN |
| #49 | Fadecolor WHITE |
| #4A | Fadecolor WHITE UP |
| #4B | Fadecolor WHITE DOWN |
| #50 | Add Storage Place A to Cuelist |
| #51 | Add Storage Place B to Cuelist |
| #52 | Delete Cuelist entry VALUE |
| #53 | Delete CURRENT Cuelist entry |
| #54 | Cuelist Start (Play) |
| #55 | Cuelist Stop |
| #56 | Cuelist Start (Play) / Stop |
| #57 | Cuelist GO |
| #58 | Cuelist BACK |
| #59 | Cuelist NEXT |
| #5A | Cuelist GOTO |
| #5C | Cuelist Dialog Show |
| #5D | Cuelist Dialog Hide |
| #5E | Cuelist Dialog Show / Cuelist Dialog Hide |
| #60 | Audio Start |

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| | |
|---|---|
| #61 | Audio Stop |
| #62 | Audio Start / Audio Stop |
| #63 | Audio Mute |
| #64 | Audio UnMute |
| #65 | Audio Mute / Audio UnMute |
| #66 | Audio Volume |
| #67 | Audio Volume UP |
| #68 | Audio Volume DOWN |

## MIDI Message Type 0x80 (Note OFF)

| | | | |
|---|---|---|---|
| #0<br>... | Storage Place A1 with Autofade | #60<br>... | Storage Place B1 with Autofade |
| #59 | Storage Place A60 with Autofade | #119 | Storage Place B60 with Autofade |
| #124 | Storage Place A with Autofade DOWN | #126 | Storage Place B with Autofade DOWN |
| #125 | Storage Place A with Autofade UP | #127 | Storage Place B with Autofade UP |

## MIDI Message Type 0x90 (Note ON)

| | | | |
|---|---|---|---|
| #0<br>... | Storage Place A1 without Autofade | #60<br>... | Storage Place B1 without Autofade |
| #59 | Storage Place A60 without Autofade | #119 | Storage Place B60 without Autofade |
| #124 | Storage Place A DOWN without Autofade | #126 | Storage Place B DOWN without Autofade |

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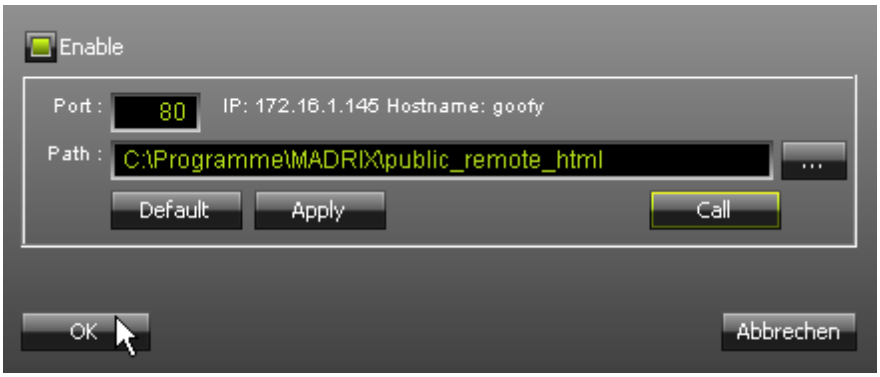
| | | | |
|---|---|---|---|
| #125 | Storage Place A UP without Autofade | #127 | Storage Place B UP without Autofade |

## 10.3 Remote Control using HTTP

Connect MADRIX to any TCP/IP network and you can control MADRIX from all over the world using a Internet Browser or your mobile phone with Internet communications using the **Remote HTTP function**. Click inside the menu **Preferences** at **Remote Control** and **HTTP**. A new dialog will be opened.




Please check first, if you have any local web server running at port 80. If you do not have any local web server running at port 80 you can Enable the Remote HTTP on port 80. Otherwise you have to change the port e.g. to 81 or 8080. If MADRIX cant start the Remote HTTP service please click inside the menu Preferences and Logfile (F6) and check the logfile for errors.

Now you can press the button call. Your internet browser will be opened and you will see test html websites where you can remote control MADRIX and the MADRIX Remote Members.

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These html examples are for demonstration the possibilities. You can modify or create your own html files to remote control MADRIX or using the MADRIX Remote Members for using inside your own applications e.g. like using the DJ Software ULTRAMIXER.

**HINT:**
You should name your own created html startpage index.html.

## 10.4 MTC MIDI Time Code

MIDI time code (MTC) embeds the same timing information as standard SMPTE time code as a series of small 'quarter-frame' MIDI messages**. MIDI Time Code (MTC)** synchronization can be used to **synchronize MADRIX with an audio or video** and allows you the **synchronization of your MADRIX show with other lighting desks or e.g. a laser show.**

**MADRIX professional** and **MADRIX ultimate** supporting receiving MIDI Time Code (MTC):

- 24 frame/s (standard rate for film work)
- 25 frame/s (standard rate for PAL video)
- 30/1.001 frame/s (Drop-Frame timecode for color NTSC video)
- 30 frame/s (monochrome NTSC video)

### Set up MTC

If you want to activate MTC click inside the menu **Preferences** at **Device Manager** and select the **tab Midi Input**. In this tab you can enable the MTC by clicking and activating "enable" in the Timecode section. You need a sound card with a MIDI port. If you have e.g. a on board sound card without a MIDI port you can't select the MIDI device in the Timecode section. In that case you have to buy and install an additional external or internal sound card with a MIDI port. If you are using a Laptop you can buy an external sound card with a MIDI port.

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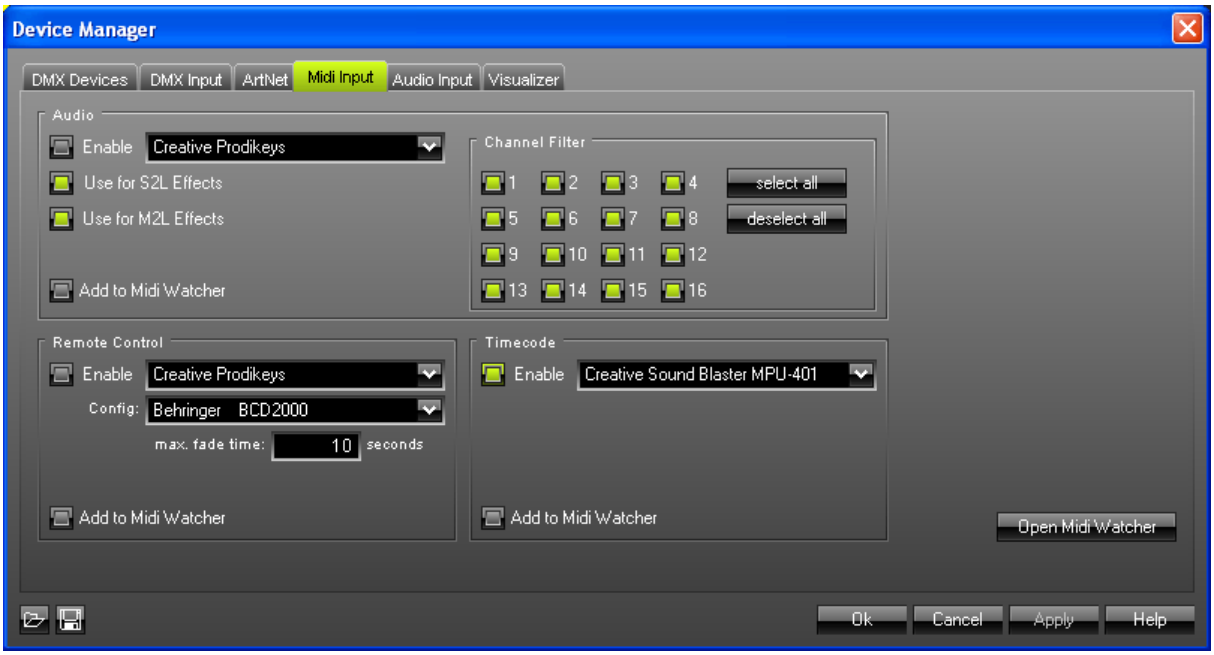
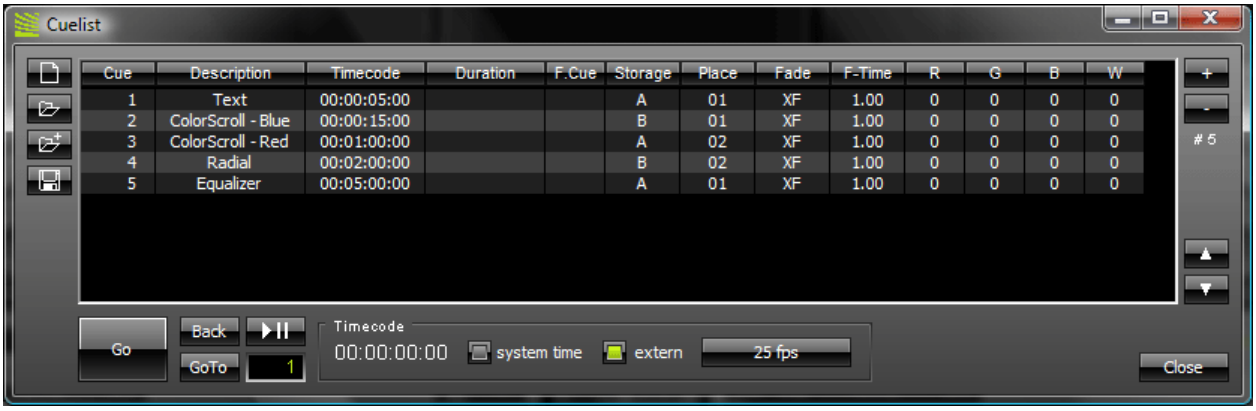



After you have enabled the MTC support in the Device Manager you can close this window.

## Set up the Cuelist for receiving MTC

Now set up your cuelist. First **activate** the switch **"extern"** and **select the frame rate**. In this example we have used 25 frame/s (standard rate for PAL video). Now add a entry to the cuelist.




The next step is to **set the Timecode** for a Cuelist entry. The **format for** the **Timecode** is HH:MM:SS:FF. The characters HH for Hour, the characters MM for minutes, the characters SS for seconds and the characters FF for frames.

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**You can type in in following values for the Timecode:**

For an input of **one hour** you can use **01000000** or **01:00:00:00** or **01,00,00,00** or **01.00.00.00** or **01/00/00/00** or **1h** or **01h00m00s00f**.

For an input of **ten minutes** you can use **00100000** or **00:10:00:00** or **00,10,00,00** or **00.10.00.00** or **00/10/00/00** or **10m** or **00h10m00s00f**.

For an input of **ten seconds** you can use **00001000** or **00:00:10:00** or **00,00,10,00** or **00.00.10.00** or **00/00/10/00** or **10s** or **00h00m10s00f**.

For an input of **ten frames** you can use **00000010** or **00:00:00:10** or **00,00,00,10** or **00.00.00.10** or **00/00/00/10** or **10f** or **00h00m00s10f**.

**Now you are finished and you can add more entries to this list.**

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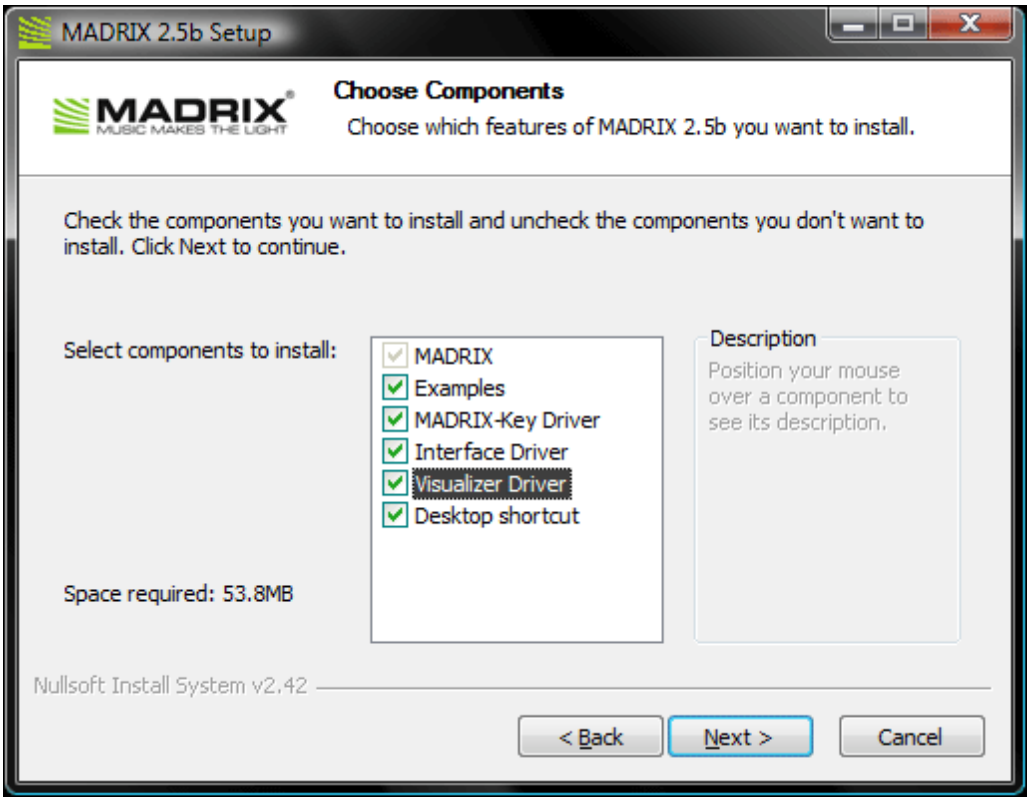
# Part

# 11 Visualizer - wysiwyg

## Install WYSiWYG driver

To use WYSiWYG with MADRIX, you have to install the MADRIX – WYSiWYG driver first. So please make sure to select the **"Visualizer Driver"** check box in the **MADRIX** setup wizard.


MADRIX 2.5b Setup
MADRIX
MUSIC MAKES THE LIGHT
Choose Components
Choose which features of MADRIX 2.5b you want to install.
Check the components you want to install and uncheck the components you don't want to install. Click Next to continue.
Select components to install:
MADRIX
Examples
MADRIX-Key Driver
Interface Driver
Visualizer Driver
Desktop shortcut
Description
Position your mouse over a component to see its description.
Space required: 53.8MB
Nullsoft Install System v2.42
< Back
Next >
Cancel

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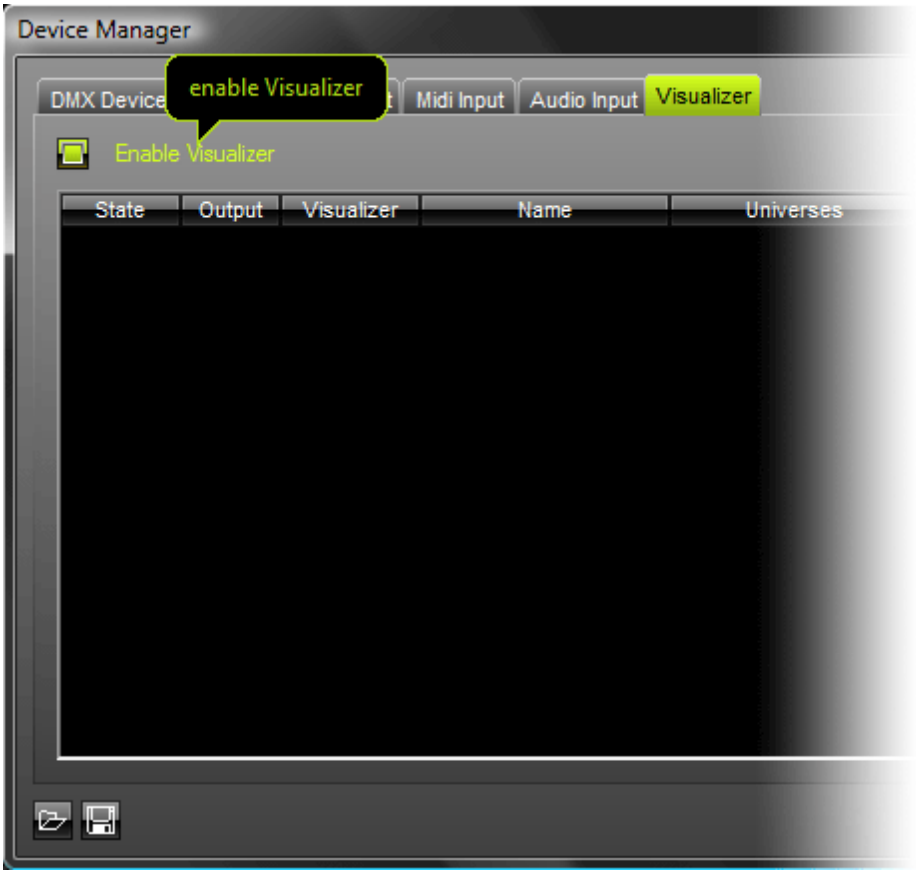
# 11.1 wysiwyg

## Enable WYSiWYG in MADRIX

To start the Visualizer, please click inside the menu **"Preferences"** the entry **"Device Manager"** or press the F4 key. In the Visualizer tab **enable** the **Visualizer.**



Use the **"find auto"** button to automatically find all running WYSiWYG devices on the local computer or in the network. Make sure that the port number in the Visualizer tab matches the port number in your WYSiWYG – Driver configuration page. To open the WYSiWYG – Driver configuration page you have to double click the tray icon in the system tray on the computer that WYSiWYG running on.

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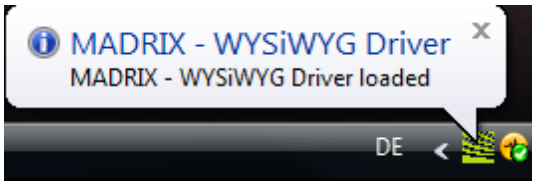
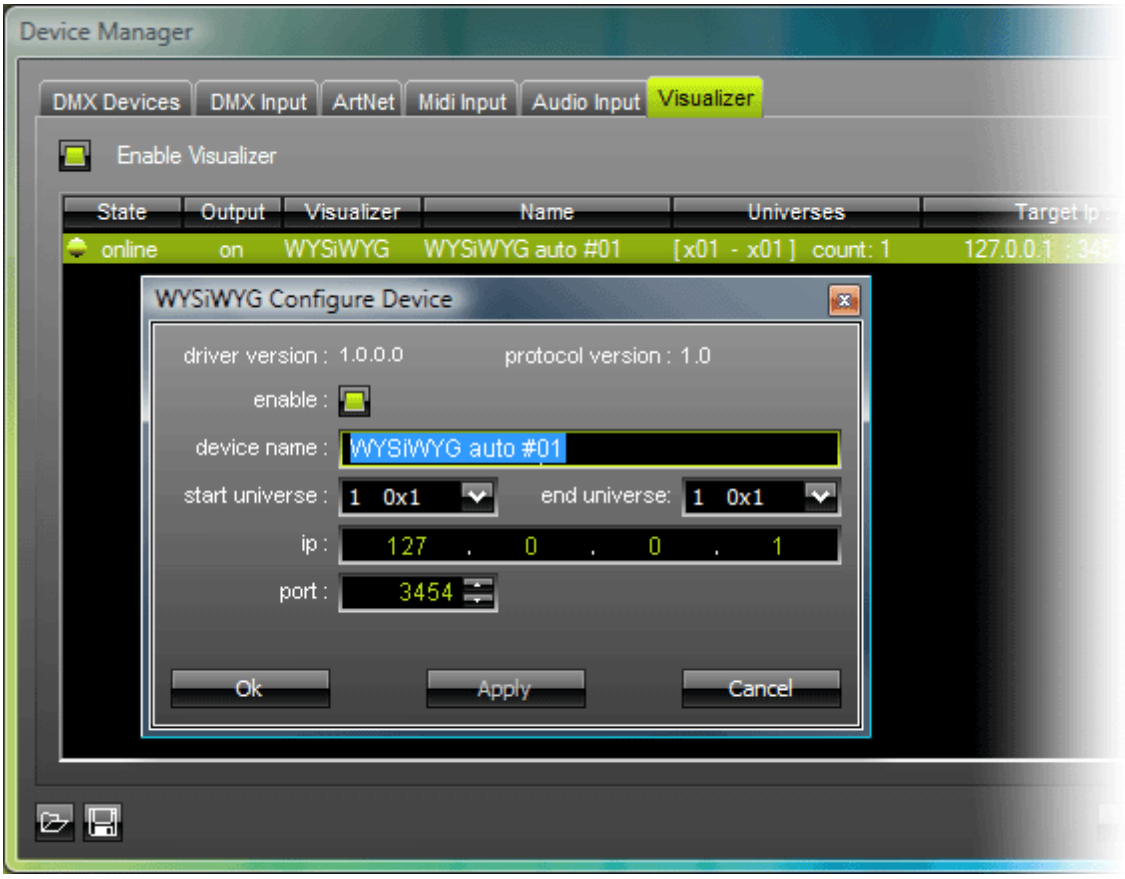



Your WYSiWYG device should appear now in the list box with the State: online. To configure the device , please double click it.




Note that you can also create the WYSiWYG device manually by clicking on the **"new"** button, in this case you have to change the ip address and the port number of the new WYSiWYG device as described below.

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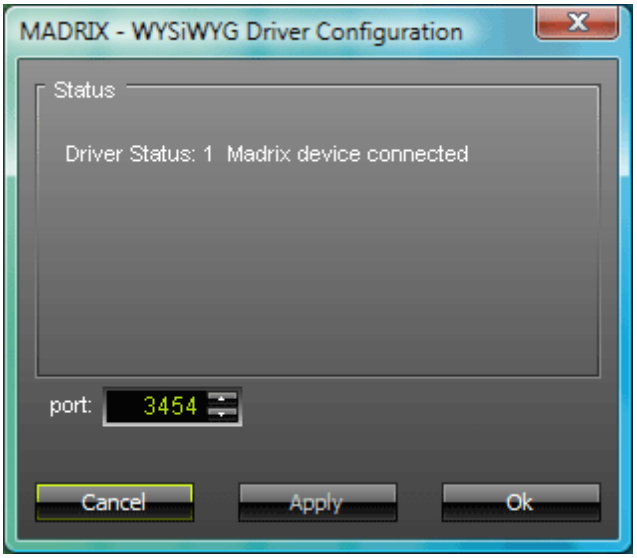
In the WYSiWYG device configuration page you can enable or disable the DMX output, rename the device to a custom name and set the start and the end universe for the DMX data that will be send to WYSiWYG. The **"ip"** and **"port"** fields represent the ip address and the port number of the target computer, on which WYSiWYG is running, so if the device was automatically detected you don't need to change it.

**Hint:** You can only enable DMX – output if the WYSiWYG Driver **"State"** is **"online"**, which means that the WYSiWYG Driver is started and running on the same computer or in the network.

Now if the connection is established, in the Status area of the WYSiWYG device configuration page a message will be display that **"xx MADRIX device(s) connected".**




**Please note that WYSiWYG can connect up to 20 computers running MADRIX and vice versa.**

You can also save your device settings as *.vdf file to restore it later.

To save your current configurations please click on the save button in the lower left corner of the Visualizer dialog and choose the name and the path to safe your Visualizer device file.

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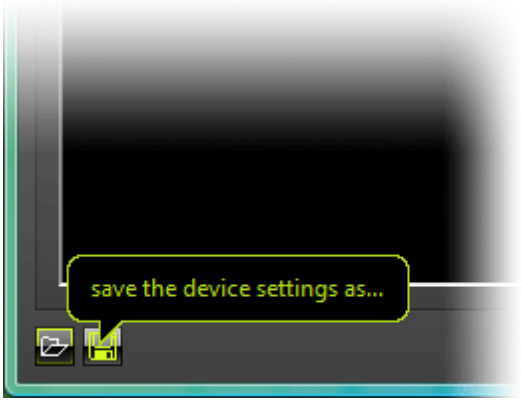
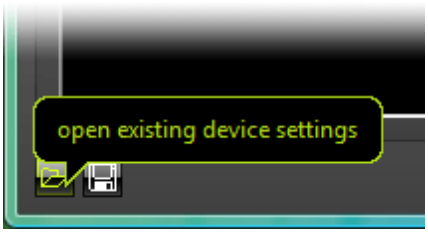



You can easily  restore your saved device settings from *.vdf file by clicking on the open button in the lower left corner of the Visualizer dialog and navigating to the desired file.




## Connect to MADRIX in WYSiWYG

WYSiWYG:

After starting WYSiWYG go to the LIVE mode then from the **"live"** menu choose **"Device Manager"**. The Device Manager dialog box is displayed.

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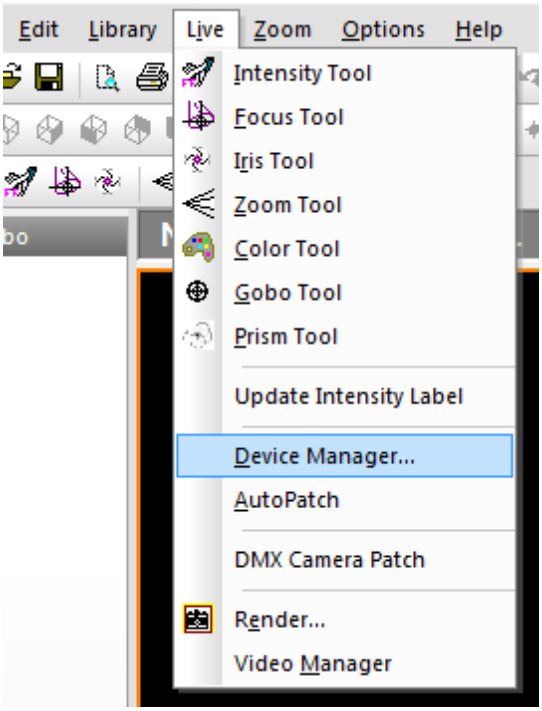


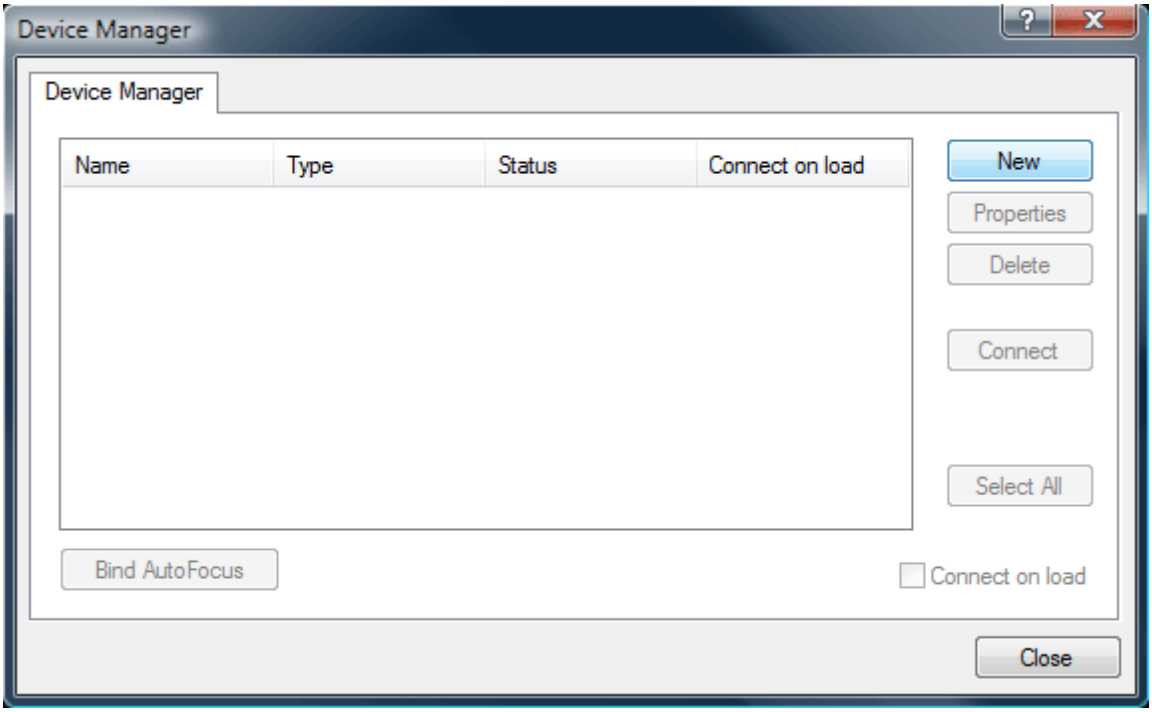


Click **"new" --> "Consoles"** and navigate through the console library until you find **"MADRIX"**, highlight it and then click on **"insert"**.

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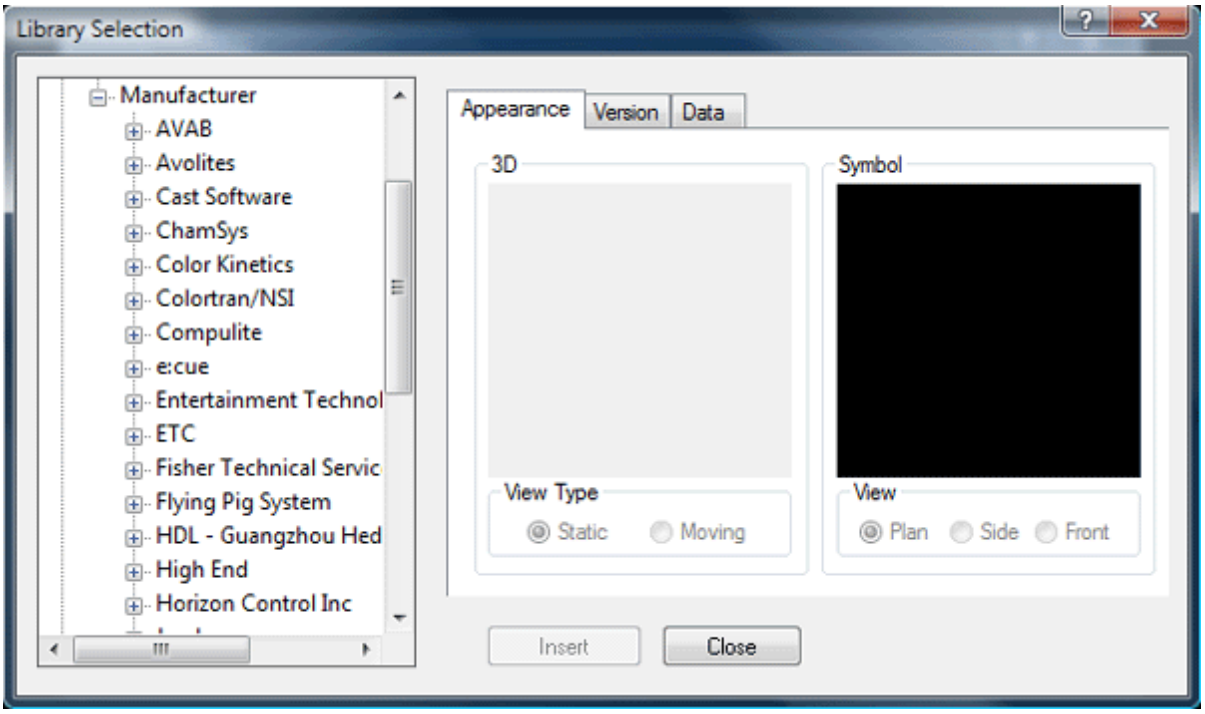


Now the **MADRIX** console should appear in the Device Manager. Select the **MADRIX** console and click on **"Properties"**. In the Property dialog box enter the ip address of the Computer that **MADRIX** running on (for instance 192.168.33.5) in the **"Address:"** filed.

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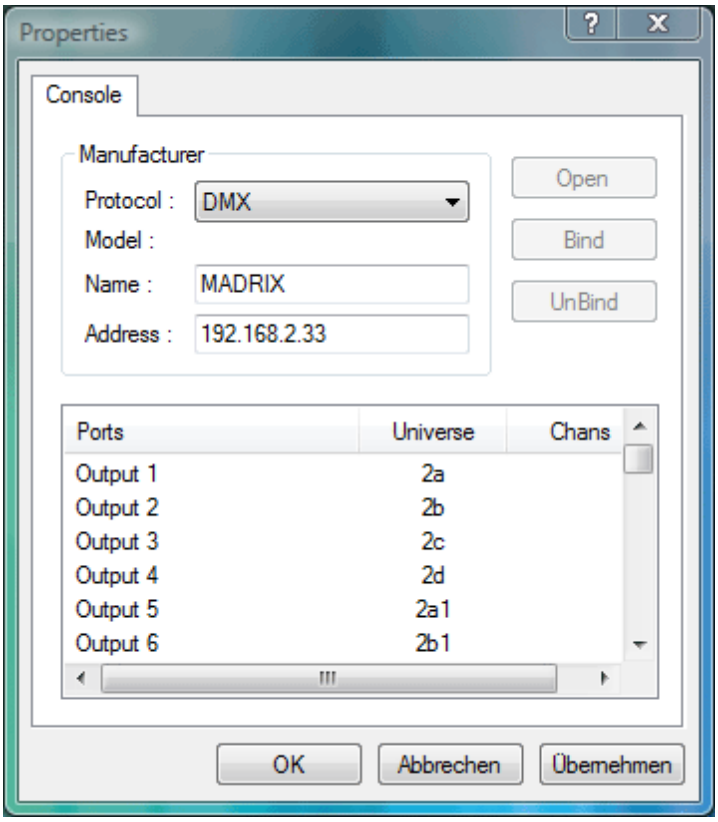


If **MADRIX** and WYSiWYG running on the same computer please enter 127.0.0.1 in the **"Address:"** filed then apply the changes with **"OK"** and in the the Device Manager dialog box click on **"Connect".**

For more information about how to create and edit Patches, please refer to the WYSiWYG documentation.

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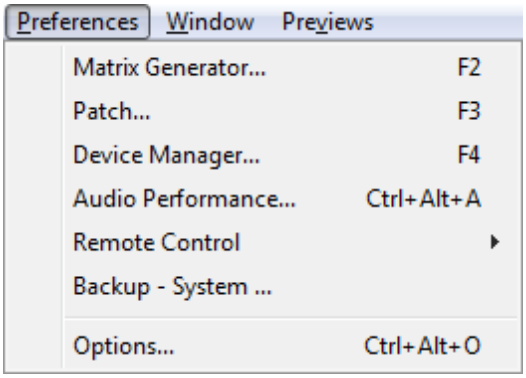
# Part XII

# 12 Tutorials

## 12.1 Creating and playing an effect




Start MADRIX. First click inside the **Preferences** Menu at **Matrix Generator**. A new window is being opened, in which you have all settings for your Matrix.

**ATTENTION:**
At this point, it is expected, that all necessary settings for the light matrix and DMX hardware have been done and tested.

Now select a free storage place from the Storage A or B and click on it.

In this example we use in Storage A the Storage Place 1. Now it's time to select an effect from the effect list.

After selecting the SCE Color Ramp effect, please configure this effect:

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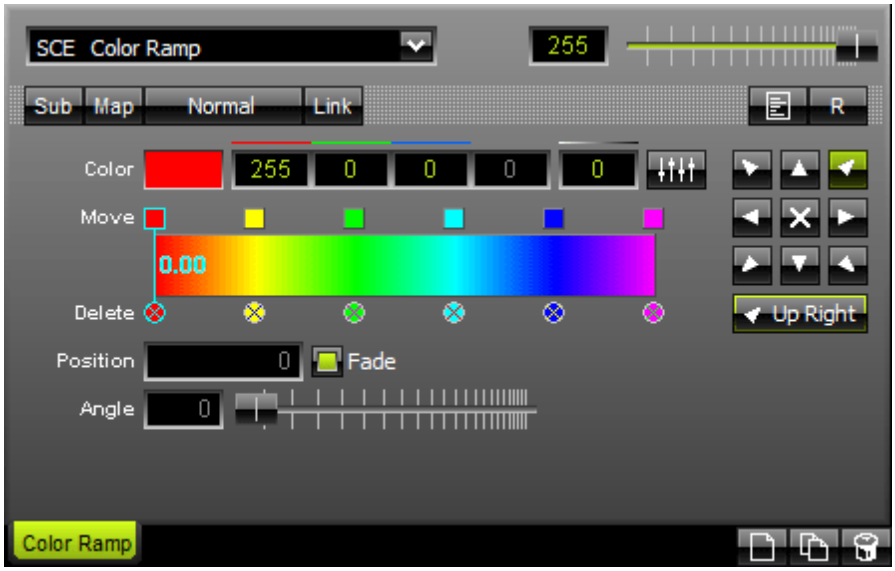
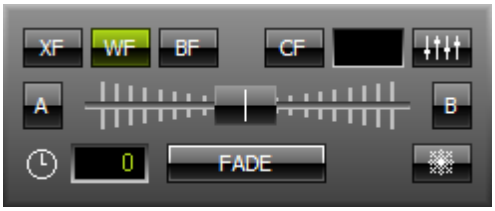



With the SCE Color Ramp you can create different settings. In this example we use a color ramp from red to pink, from top to down.

A more detailed description can be found here: Static Color Effects – SCE Color Ramp. 90




Now move the fader to that side, where the effect can be found. If you work in Storage A, pull the fader to the left, for Storage B to the right. In this example we moved the fader to the left. You will see the effect from Place 1 in Strorage A in the Preview Output.

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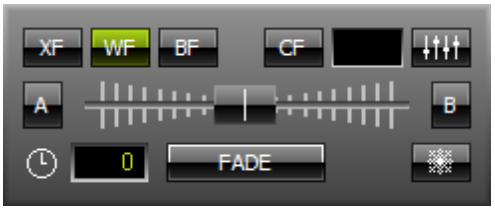
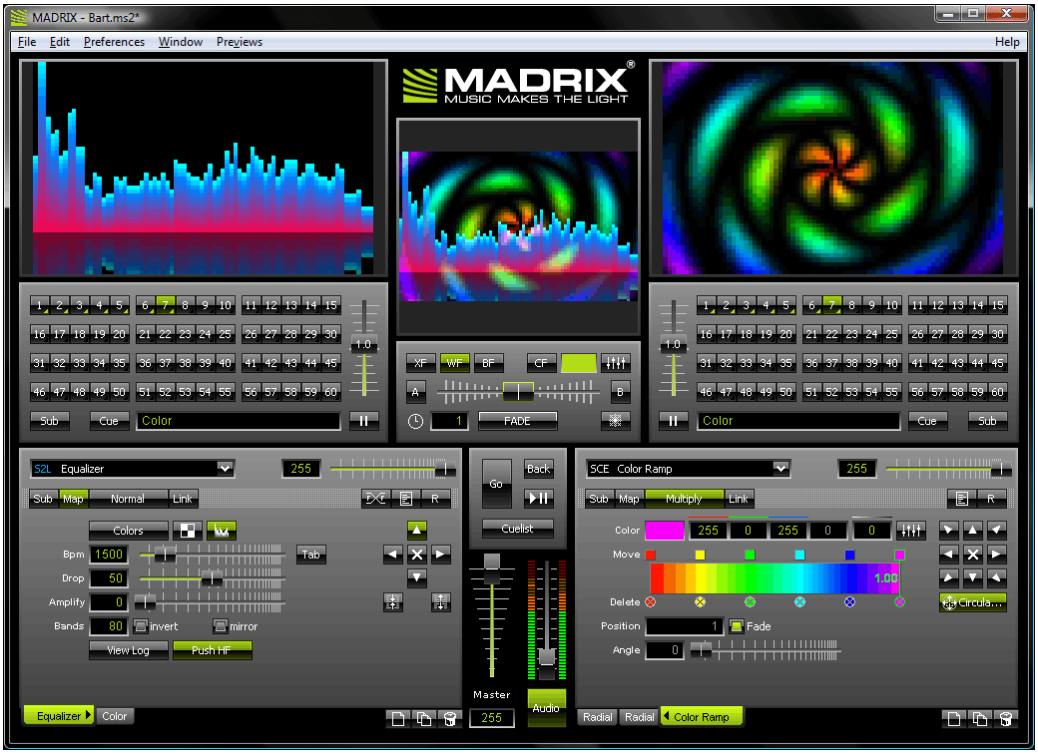
## 12.2 Using the fader for changing effects




First select an effect you have already programmed from Storage A, next choose a effect place in Storage B.

> **Example:**
> You have set the first effect in Storage A–1 and the second effect in Storage B–1.
> Now you can simply cross fade from Storage A-1 to Storage B-1

In this example we moved the fader to the middle. You will see a mix from Strorage A and B on the Preview Output.

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## 12.3 Using Enttec Datagate with MADRIX

The **ENTTEC Datagate** is a perfect match for the range of the MADRIX lighting control software, as it enables you to take full advantage of the **8.192DMX** channels in the **MADRIX basic**, **32.768 DMX** channels in the **MADRIX professional**, **130.560 DMX** channels in the **MADRIX ultimate**. MADRIX supports Art-Net.

The Datagate fully supports the Art-Net protocol, and can be configured to output anywhere between 1 and 8 DMX Universes. It also has the added advantage of isolation between its 8 DMX outputs (up to 1500 Volts). If a dangerous voltage were to get onto a DMX line, the Datagate will protect the rest of your equipment on the other lines, and keep working.

### How do I configure the ENTTEC Datagate?

You can use the software "Node Management Utility (NMU)" from ENTTEC to configure the Datagate with your computer in an easy way

### 4-Port DMX

To set the Datagate to output 4 Universes of DMX, hit the "Menu" button next to the LCD display on the Datagate"s front panel until it displays "1-Activate Profile". Hit "Enter" then "Scroll" until the Art-Net profile is displayed. Hit "Enter" to select, and the Datagate will display "Profile Activate". The Art-Netprofile configures ports 1-4 as Outputs for DMX Universe 1-4, and ports 5-8 as DMX Inputs.

### 8-Port DMX

To set the Datagate to output 8 Universes of DMX, follow the instructions above to access the "1-Activate Profile" menu on the Datagate. Select the "Enet -> DMX" profile, then change the protocol type on each of the 8 channels to Art-Net instead of the default ESP. This will give you 8 output ports. To change the protocol type, hit the "Menu" button until it displays "2-Edit Profile", hit "Enter" then "Scroll" until the display reads "2-3 EthernetConfig". Hit "Enter" again, then "Scroll" until "2-3-2 Protocol" is displayed. Hit "Enter", then "Scroll" until the display reads "Art-Net", then hit "Enter" once more. This will set the Datagate to output DMX Universes 1-8 on Ports 1-8.

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## Broadcast OR direct ip mode (Unicast)?

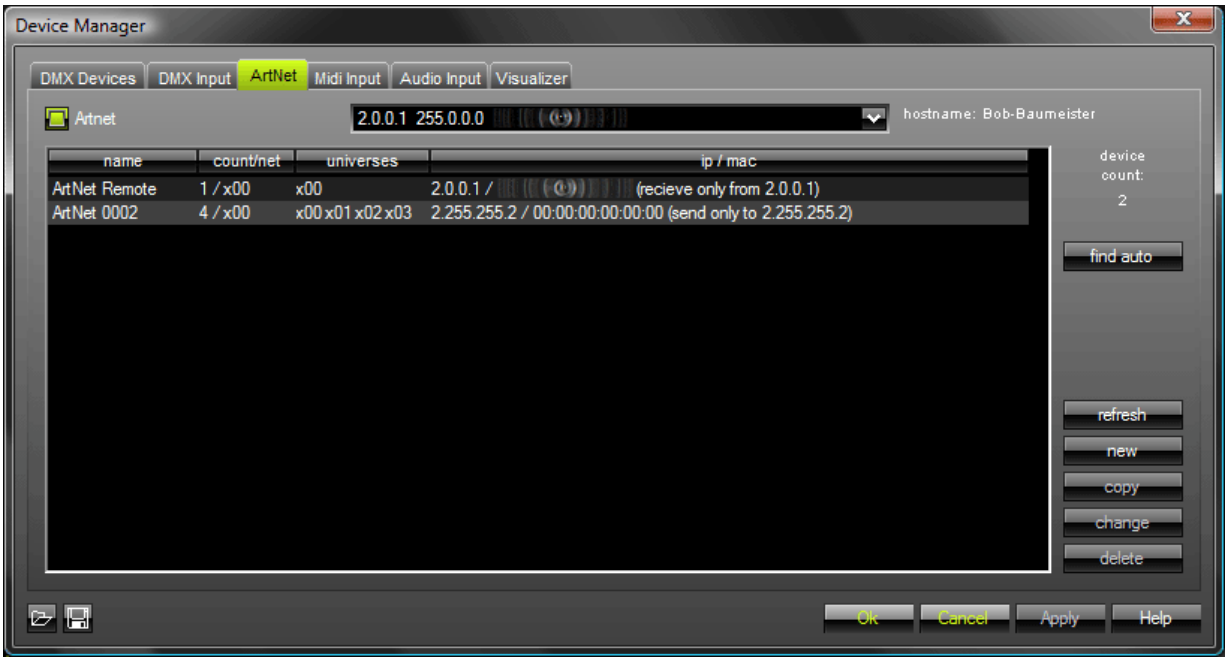
The ArtNet protocol used in broadcast mode means every packet sent from a single transmitter (MADRIX) will be received by all receivers in the network. This can be very useful if e.g. you wish universes 1 and 2 to be available on several points of the set up. The disadvantage is that by broadcasting a potentially huge number of packages over the network there is a limit of 40 DMX universes.

**To reduce network traffic we suggest using the direct ip mode (Unicast).**

**Hint:** In the next example we configure one Datagate with ports 1 – 8 to use DMX universe 1 – 8 with the broadcast mode.

## How do I configure MADRIX?

Please go to the MADRIX menu **"Preferences -> Device Manager"**. Click at the **"ArtNet" tab** and enable Artnet. Press the **"new"** button to add a new ArtNet device.




After you have pressed the **"new"** button you will see a new ArtNet device inside this screen called ArtNet 0001. Press **"change"** to configure this ArtNet device.

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ArtNet Configure Device
manufacturer : ManualDevice
product : ManualDevice V2.6
short name : ArtNet 0002
manual id: 2
long name : ArtNet device nr 0002
port count : 4 0x4
sub net : 0 0x00
state : port 1: enable port 2: enable port 3: enable port 4: enable
univers port out : 0 0x00 1 0x01 2 0x02 3 0x03
univers port in :
uuid : 53f6d1d4-cd93-456e-aca8-ac591db97919
style code : node
send broadcast : send data to broadcast address 2.255.255.255
send direct : send data only to address 2.255.255.2
ip : 2 . 255 . 255 . 2
subnet : 255 . 0 . 0 . 0
port : 6454 0x1936
Ok
Apply
Cancel

In this dialog you can set up your ArtNet device. Please click first at the **"port count"** and select the port count **"4 0x4".**

In this example we have used the broadcast option.

**Hint:** You can also use the direct ip mode by activating the switch "send direct". In that case you have to type in the ip address of your Datagate.

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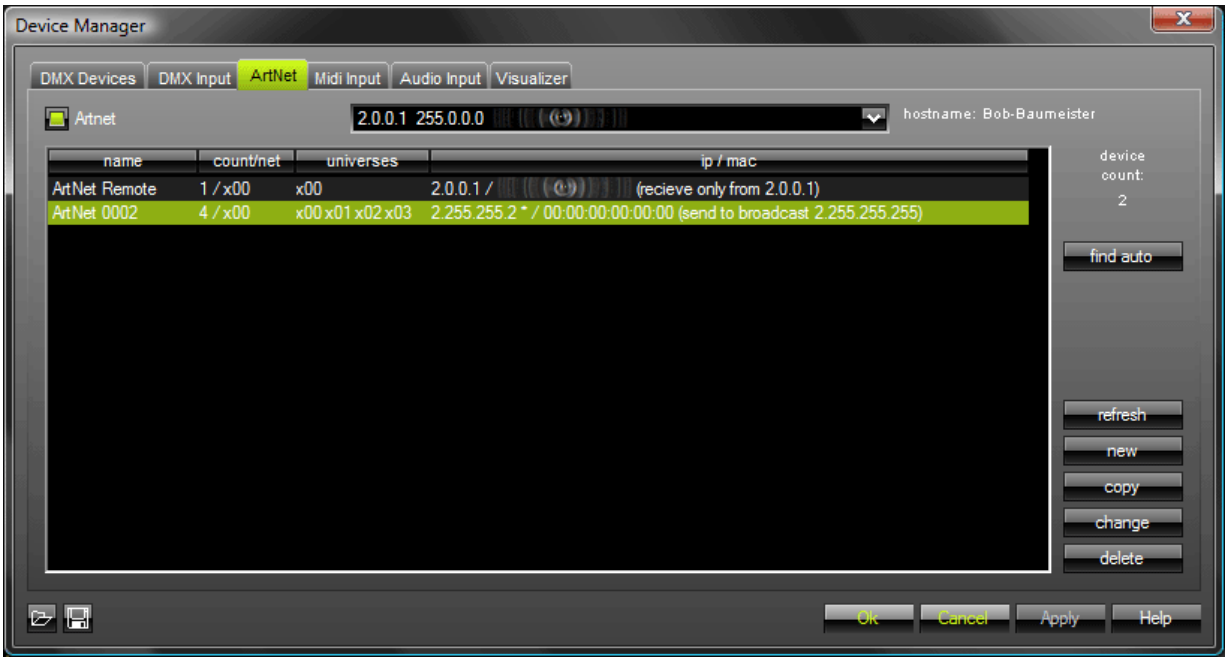
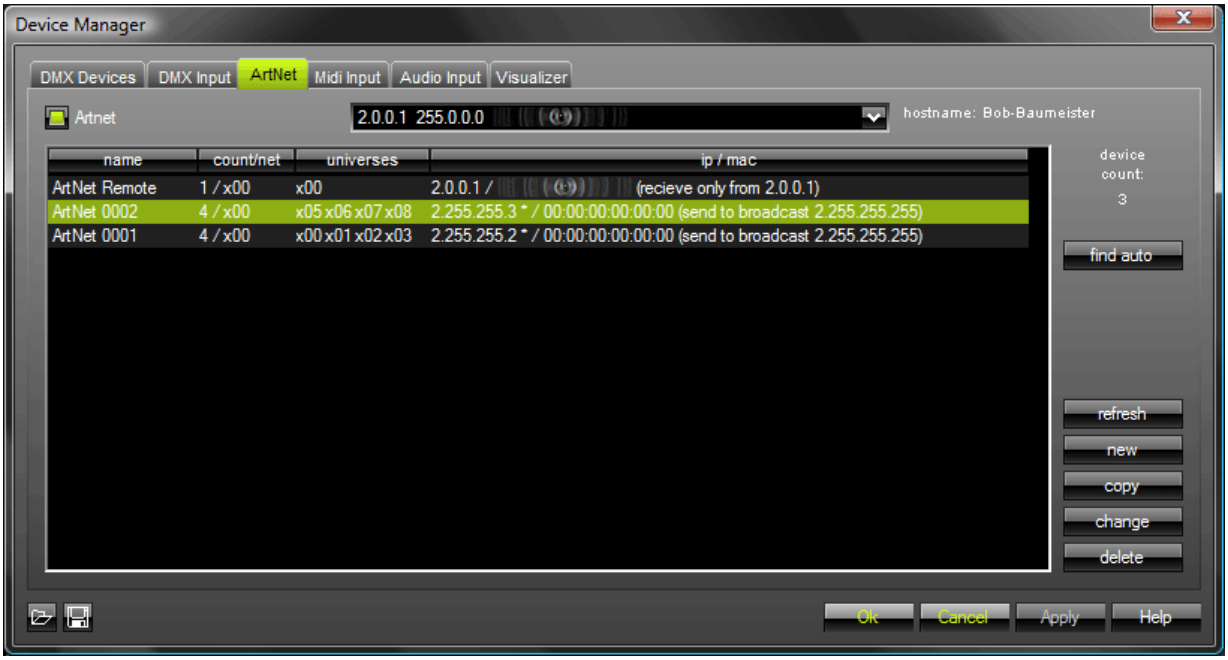



Now you see your new **ArtNet 0001** (ArtNet 0002 ...) device inside the list with 4 ports. Repeat this step and create a new ArtNet device by clicking at the "new" button.

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If you repeated the step you see **two ArtNet devices** (ArtNet 0001 and ArtNet 0002) inside the list. Now you can **modify these ArtNet devices** by selecting first the ArtNet device and clicking next the **"change"** button.

In this example we have modified the **short name** from ArtNet 0001 to **Datagate #1A**.

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ArtNet Configure Device
manufacturer : ManualDevice
product : ManualDevice V2.6
short name : Datagate #1B
manual id: 3
long name : ArtNet device nr 0003
port count : 4 0x4
sub net : 0 0x00
state : port 1: disable port 2: disable port 3: disable port 4: disable
univers port out : 5 0x05 6 0x06 7 0x07 8 0x08
univers port in :
uuid : c62cc570-cb21-42b2-9589-8fd9d1c4af5d
style code : node
send broadcast : send data to broadcast address 2.255.255.255
send direct : send data only to address 2.255.255.3
ip : 2 . 255 . 255 . 3
subnet : 255 . 0 . 0 . 0
port : 6454 0x1936
Ok
Apply
Cancel

Repeat this for the ArtNet 0002 device and modified the **short name** from ArtNet 0002 to **Datagate #1B.**

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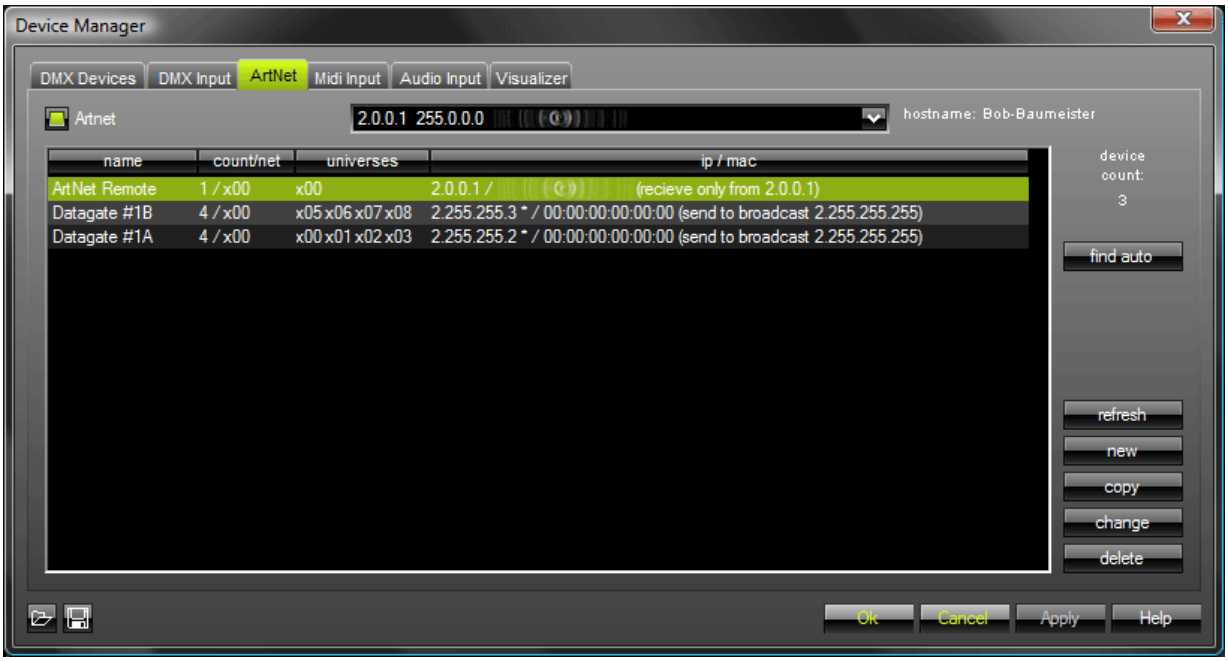


Now you see the two created ArtNet devices Datagate #1A and Datagate #1B inside the list.

**Result:**

Datagate #1A with the first 4 DMX universes and

Datagate #1B with the next 4 DMX universes.

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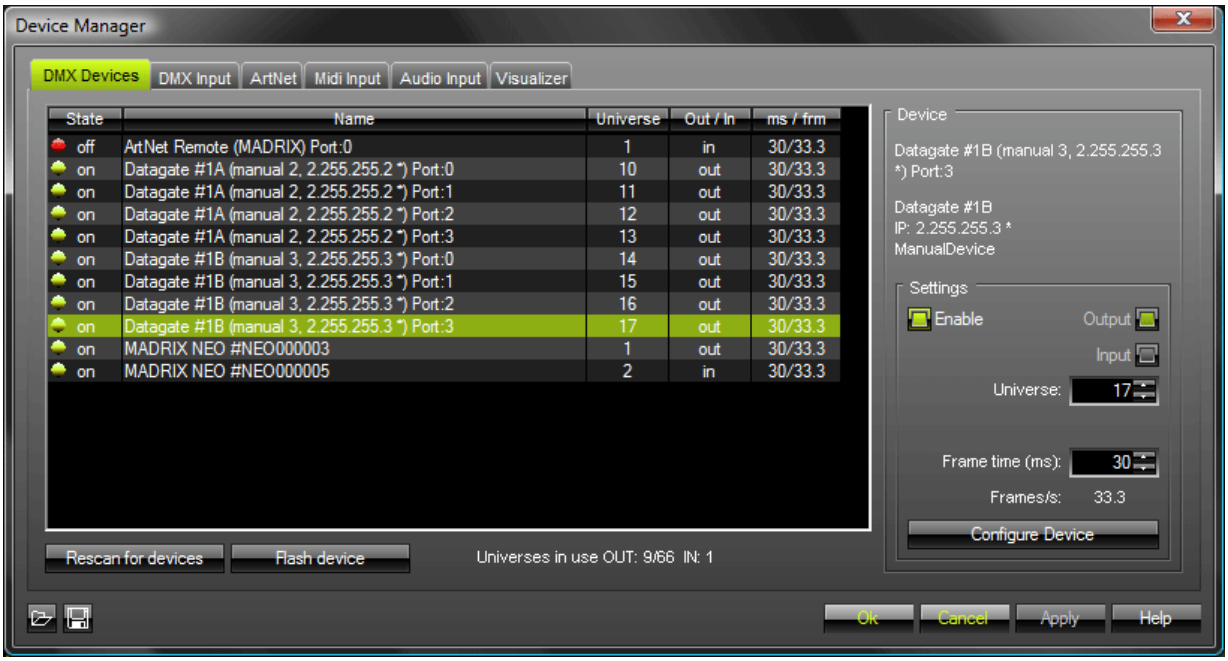

Device Manager
DMX Devices
DMX Input
ArtNet
Midi Input
Audio Input
Visualizer
State
Name
Universe
Out / In
ms / frm
off ArtNet Remote (MADRIX) Port:0 1 in 30/33.3
on Datagate #1A (manual 2, 2.255.255.2 *) Port:0 10 out 30/33.3
on Datagate #1A (manual 2, 2.255.255.2 *) Port:1 11 out 30/33.3
on Datagate #1A (manual 2, 2.255.255.2 *) Port:2 12 out 30/33.3
on Datagate #1A (manual 2, 2.255.255.2 *) Port:3 13 out 30/33.3
on Datagate #1B (manual 3, 2.255.255.3 *) Port:0 14 out 30/33.3
on Datagate #1B (manual 3, 2.255.255.3 *) Port:1 15 out 30/33.3
on Datagate #1B (manual 3, 2.255.255.3 *) Port:2 16 out 30/33.3
on Datagate #1B (manual 3, 2.255.255.3 *) Port:3 17 out 30/33.3
on MADRIX NEO #NEO000003 1 out 30/33.3
on MADRIX NEO #NEO000005 2 in 30/33.3
Device
Datagate #1B (manual 3, 2.255.255.3 *) Port:3
Datagate #1B
IP: 2.255.255.3 *
ManualDevice
Settings
Enable
Output
Input
Universe: 17
Frame time (ms): 30
Frames/s: 33.3
Configure Device
Rescan for devices
Flash device
Universes in use OUT: 9/66 IN: 1
Ok
Cancel
Apply
Help

Next click at the tab called **"DMX Devices". You have to enable the ArtNet devices by activating the Enable switch and you have to set up the DMX universe.**

**In this example we have all 8 ports of the Datagate used and activated for output.**

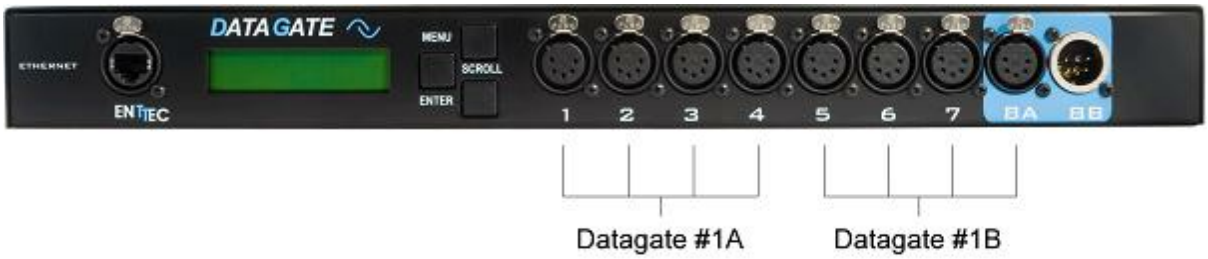
Datagate #1A Port:0 is the DMX universe 10

Datagate #1A Port:1 is the DMX universe 11

...

...

Datagate #1B Port:3 is the last DMX universe 17.

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# Part XIII

# 13 Supported DMX512 and ArtNet interfaces

MADRIX relies on existing standards: DMX512 protocol and DMX512 devices. For the data output, USB-, PCMIA-, PCI- and ethernet DMX-devices from MADRIX, e:cue, ENTTEC, Luminex, Soundlight, Nicolaudie - Sunlite, Daslight, GLP Light Produktion GmbH, peperoni-light and Daslight are being supported.

## One Software for all Brands - Changing Made Simple

MADRIX supports a lot of existing DMX512 interfaces. If you have one of this interfaces, you don't have to buy a new DMX512 interface!

## DMX512 interfaces

MADRIX

- MADRIX USBone - USB 2.0 interface, 512 DMX out or 512DMX in

peperoni-light

- Rodin1 - USB 2.0 interface, 512 DMX out
- Rodin2 - USB 2.0 interface, 512 DMX in
- RodinT - USB 2.0 interface, 512 DMX out and 512DMX in

e:cue

- butler - ethernet to DMX gateway, 1024 DMX out

GLP Light Produktion GmbH

- ion.control.one - USB 2.0 interface, 1024 DMX out with standalone mode

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- LSC 3002 - USB 2.0 interface, 512 DMX out

LUMINEX

- Ethernet-DMX2 Wall
- Ethernet-DMX2 Box
- Ethernet-DMX2 Wifi
- Ethernet-DMX8
- Ethernet-DMX8 Wifi
- Ethernet-DMX8 Truss

ENTTEC

- DMXEtherGate MK2
- Datagate
- Open DMX USB Interface
- DMX USB Pro

Soundlight - The DMX company

- 1514PCI - PCI Card, 1024 DMX out/in
- 2514PCI - PCI Card, 2048 DMX out/in

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- 2512A - PCMCIA Card, 1024 DMX out/in
- USBDMX2 - USB interface, 512 DMX out
- USBDMX1-LC - USB interface, 512 DMX out
- USBDMX-IN - USB interface, 512 DMX in
- SLESA-IP - ethernet interface, 512 DMX out

Nicolaudie - Sunlite

- SLESA - USB interface, 512 DMX out
- SLESA-IP1 - ethernet interface, 512 DMX out
- SLMEV - USB interface, 512 DMX in

Daslight

- DVC2 512 - USB 2.0 interface, 512 DMX out and 512 DMX in
- DVC2 Gold - USB 2.0 interface, 1024 DMX out
- DVS 3D - USB 2.0 interface, 512 DMX in

LTS co., ltd.

- USB DMX512 interface

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## ArtNet interfaces

**MADRIX supports all available ArtNet nodes.** You can use ArtNet nodes as output or input devices. Art-Net is a communication system that allows DMX512 to be sent over Ethernet. It was invented by Artistic Licence and has now been published into the public domain.

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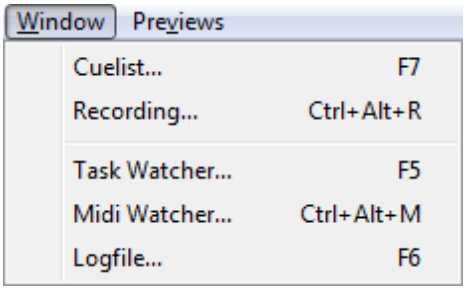
# Part XIV

# 14 Recording to ion.control.one for a standalone mode




You can use the **GLP ion.control.one** for a **standalone mode** without a computer. The standalone mode is easy to use and versatile : program your effects in MADRIX and save these effects in the internal memory of the GLP ion.control.one interface, power with power source and select your scene using the buttons. The GLP ion.control.one interface sends the DMX signals that you have pre-programmed to your lighting fixtures without any computer.

To record from MADRIX to a bank of the GLP ion.control.one click inside the menue **Windows --> Recording** and the following Dialog will be opened.

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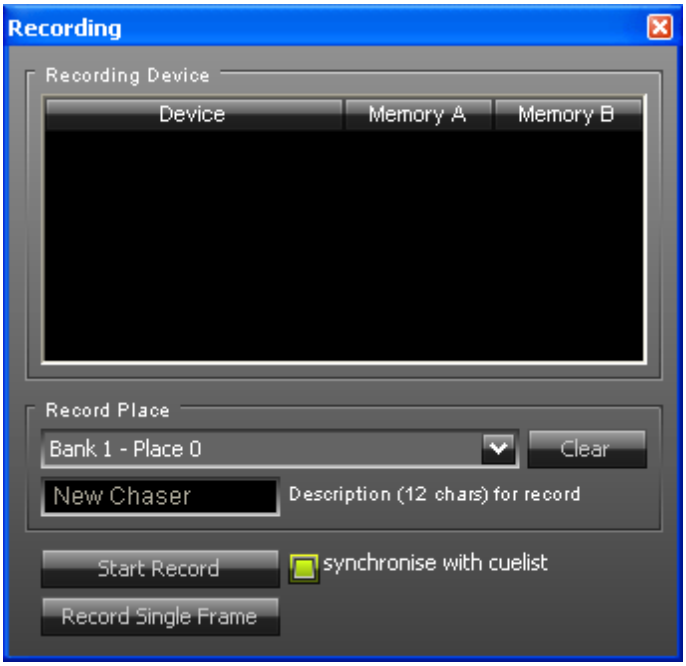


Now select your recording device or select more than one interface (for multi recording) and select a free bank. If you click on the **Record Single Frame** button only one frame will be recorded to the ion.control.one. If you click on the **Start Record** button the recording will start. If you want to stop the recording click this button again. If you have started the recording, you will see the same button labeled **Stop Record.**

If you activate **synchronise with cuelist** the recording will be automatically started if you click on the **play / pause button** inside the MADRIX Cuelist 152.

Additionally you can set a description for each Record Place. This description you can see at the display if you activate the record place (bank and place) on your ion.control.one.

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# Part XV

# 15 keyboard shortcuts - hot keyes

| | |
|---|---|
| File New | Ctrl+N |
| File Open Setup | Ctrl+O |
| File Save Setup | Ctrl+S |
| File Save Setup as | Ctrl+Alt+S |
| Patch (open and close) | F3 |
| Device Manager (open and close) | F4 |
| Audio Performance | Ctrl+Alt+A |
| Options | Ctrl+Alt+O |
| Cuelist (open and close) | F7 |
| Recording | Ctrl+Alt+R |
| Midi Watcher | Ctrl+Alt+M |
| Logfile (open and close) | F6 |
| Taskwatcher (open and close) | F5 |
| Starts the MADRIX Help | F1 |
| Inside the DVI Fullscreen<br>(Move the Fullscreen between your monitors.) | TAB |
| If the current control is a button, this clicks the button. If the current control is a check box, this toggles the check box. If the current control is an option, this selects the option. | SPACEBAR |
| Inside the edit field (Color Edits) you can switch between the values 0 and 255. | |

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| | |
|---|---|
| Equivalent to clicking the Cancel button | ESC |
| Quit MADRIX or close a window (Cuelist, Faderbox, Makro Editor ...) | Alt+F4 |

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# Part XVI

# 16 Imprint and Copyright

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